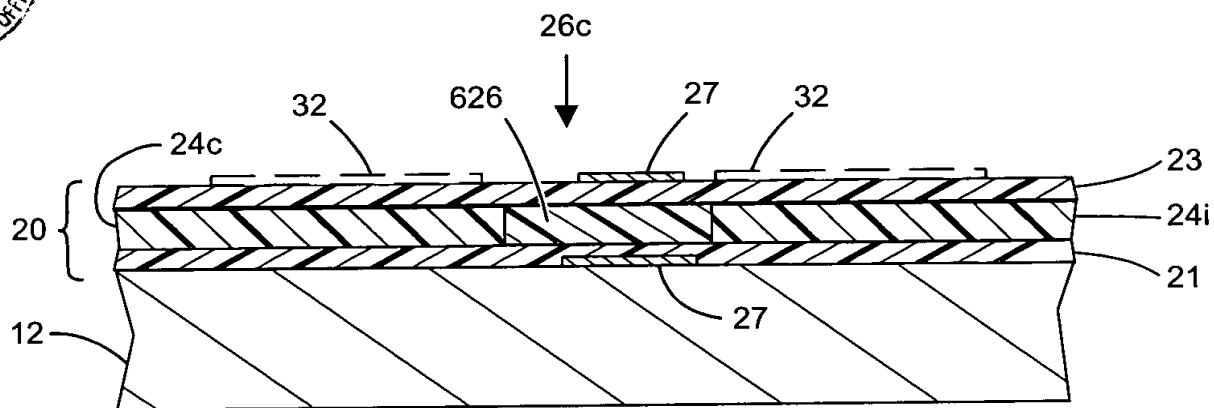


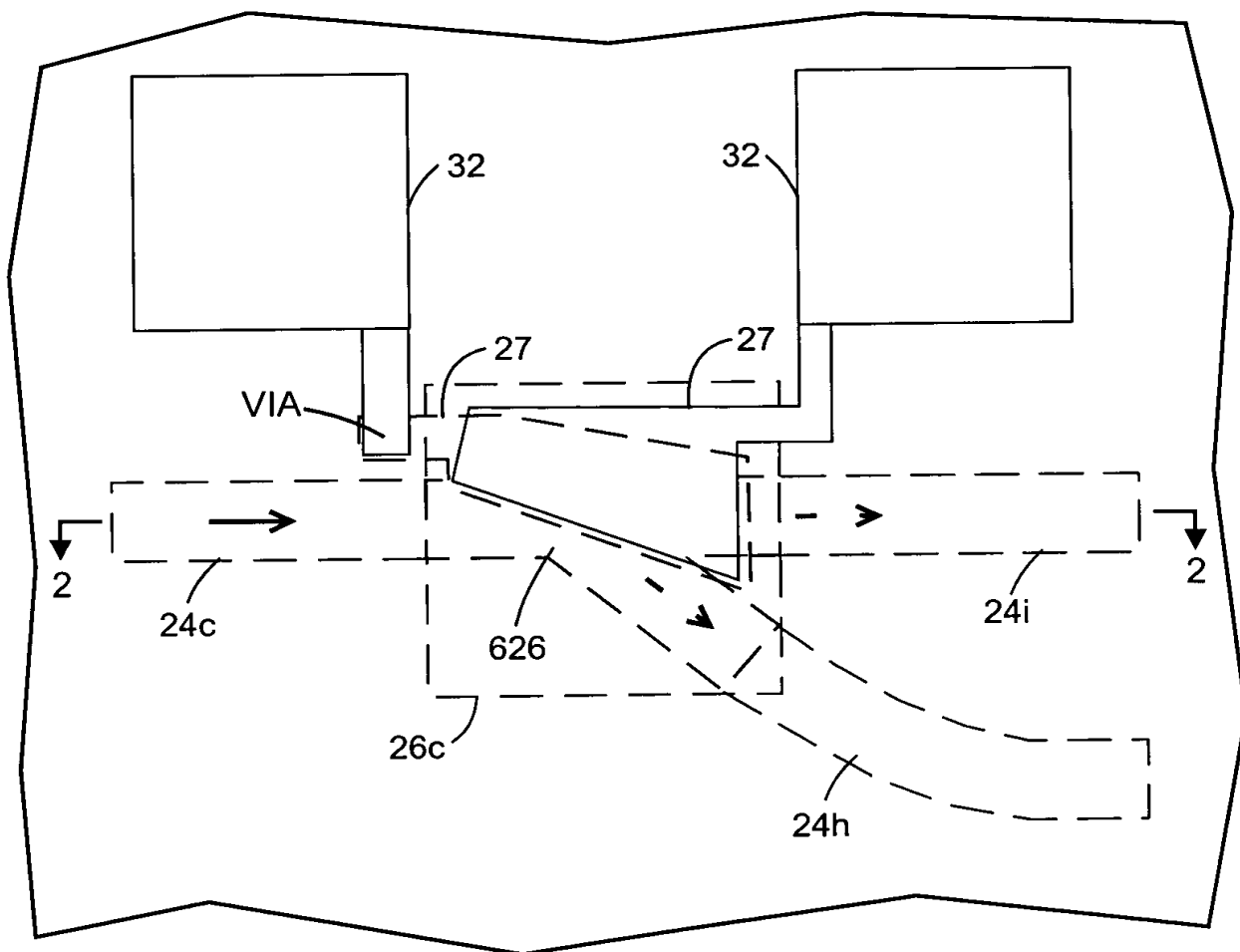
FIG. 1



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**FIG. 2**



**FIG. 3**



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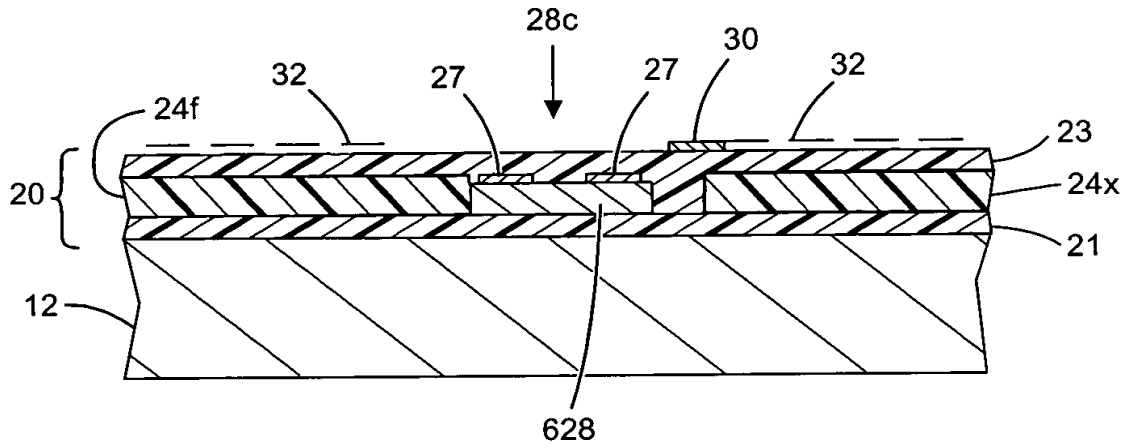


FIG. 4-1

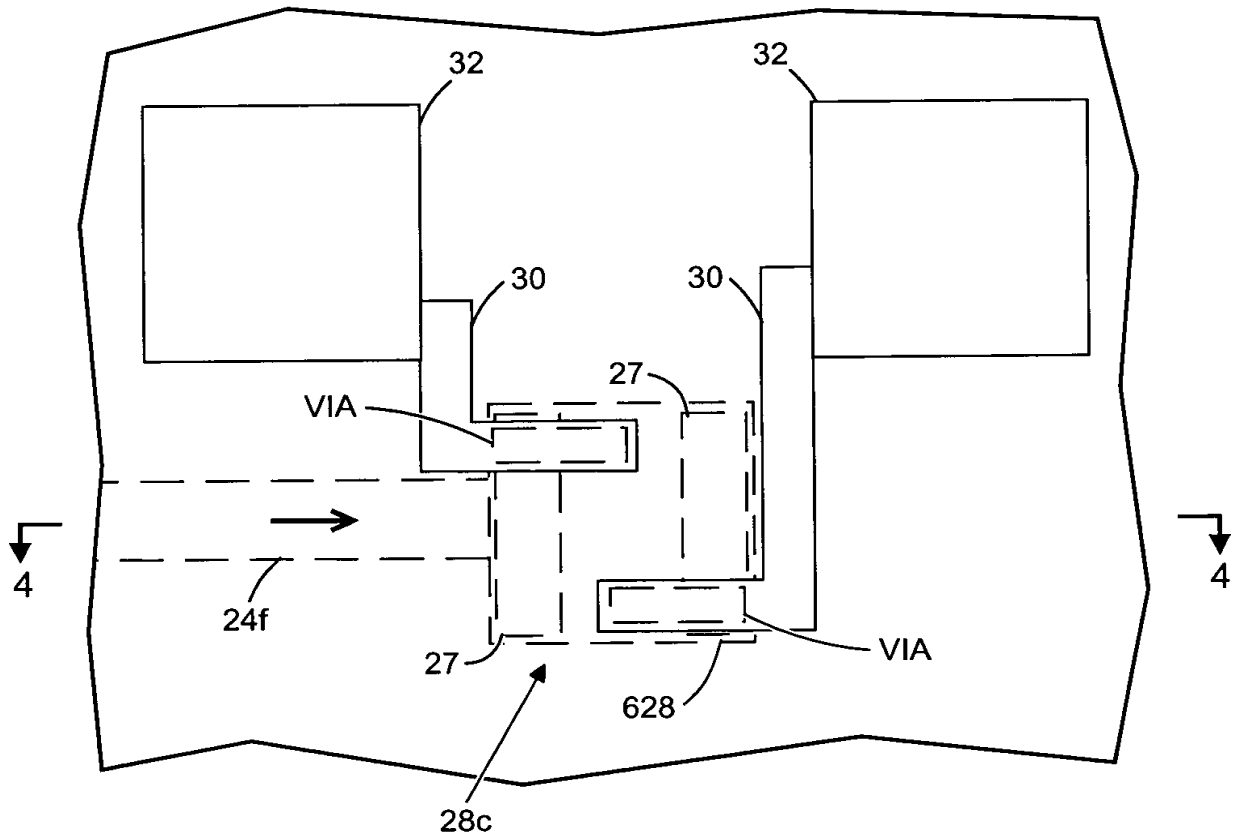
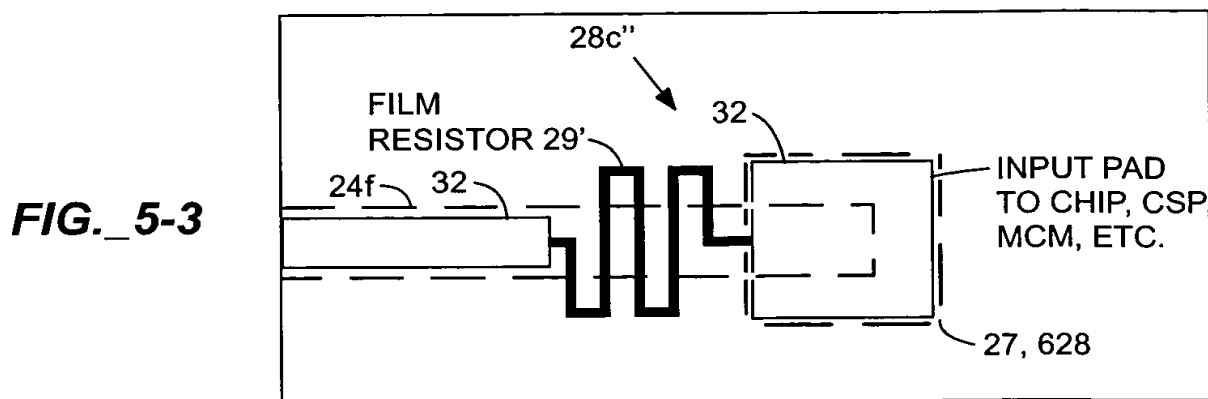
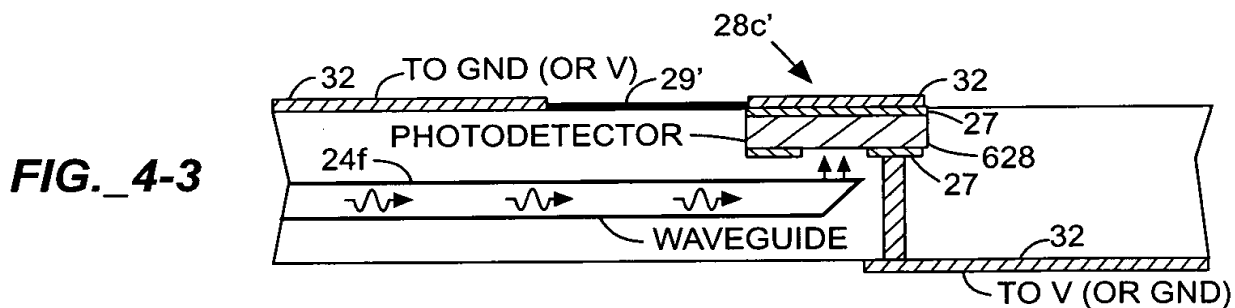
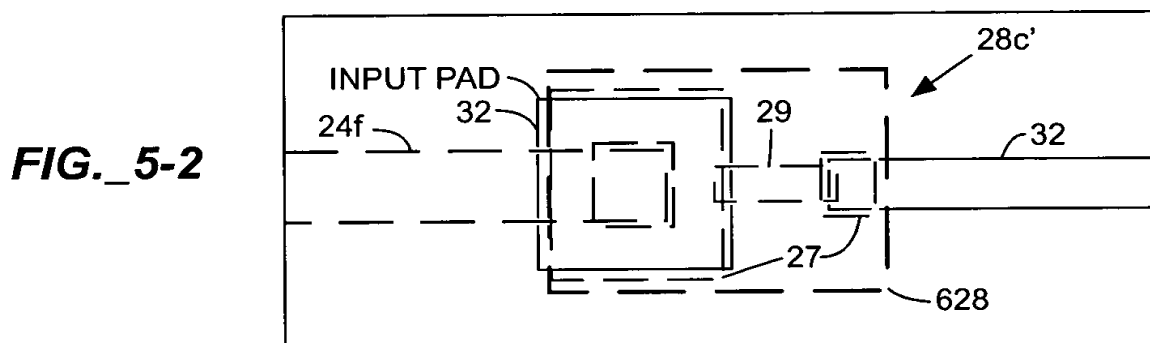
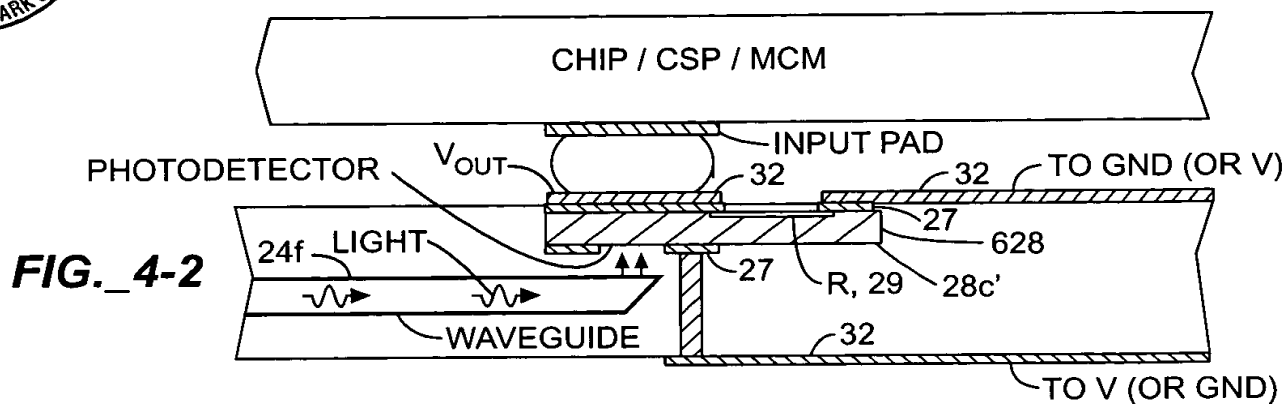
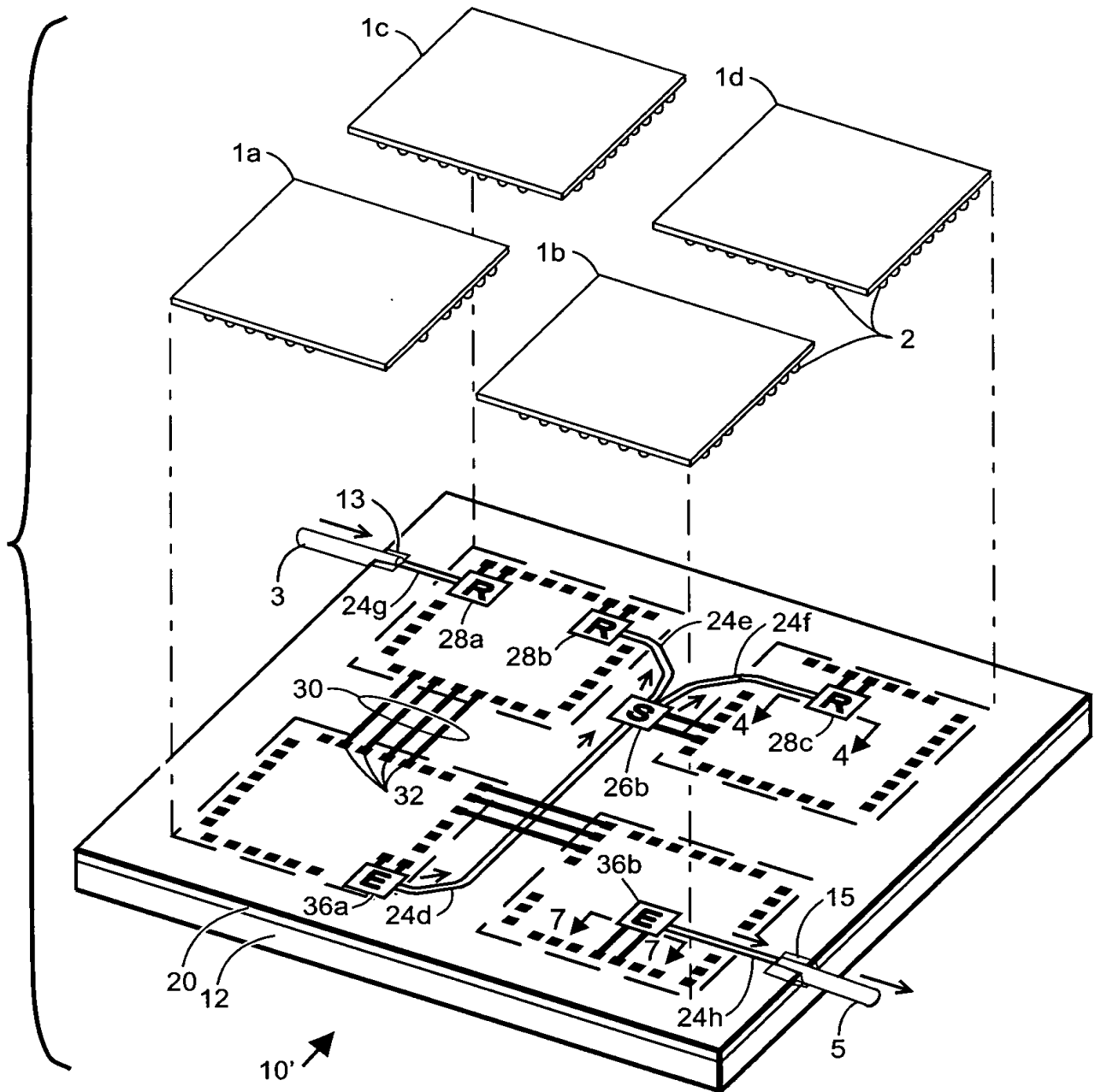
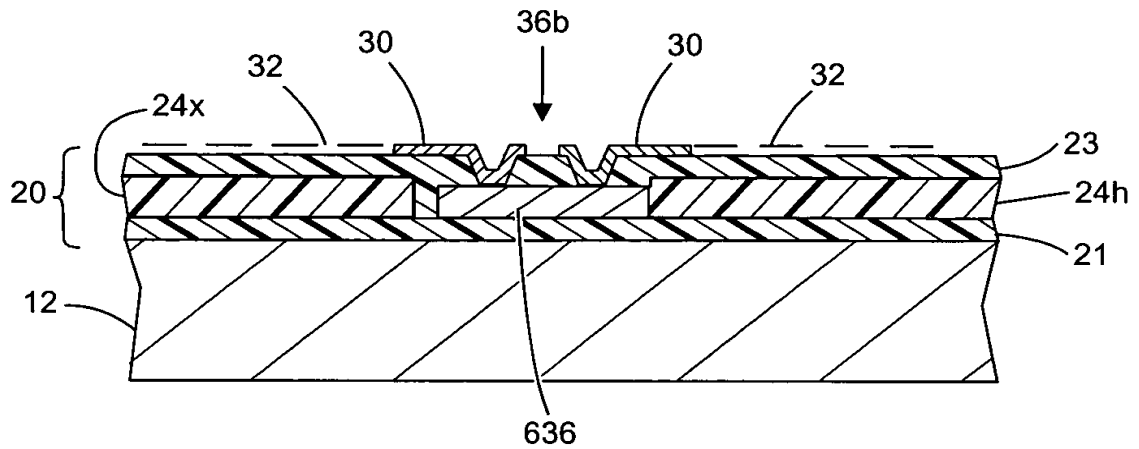


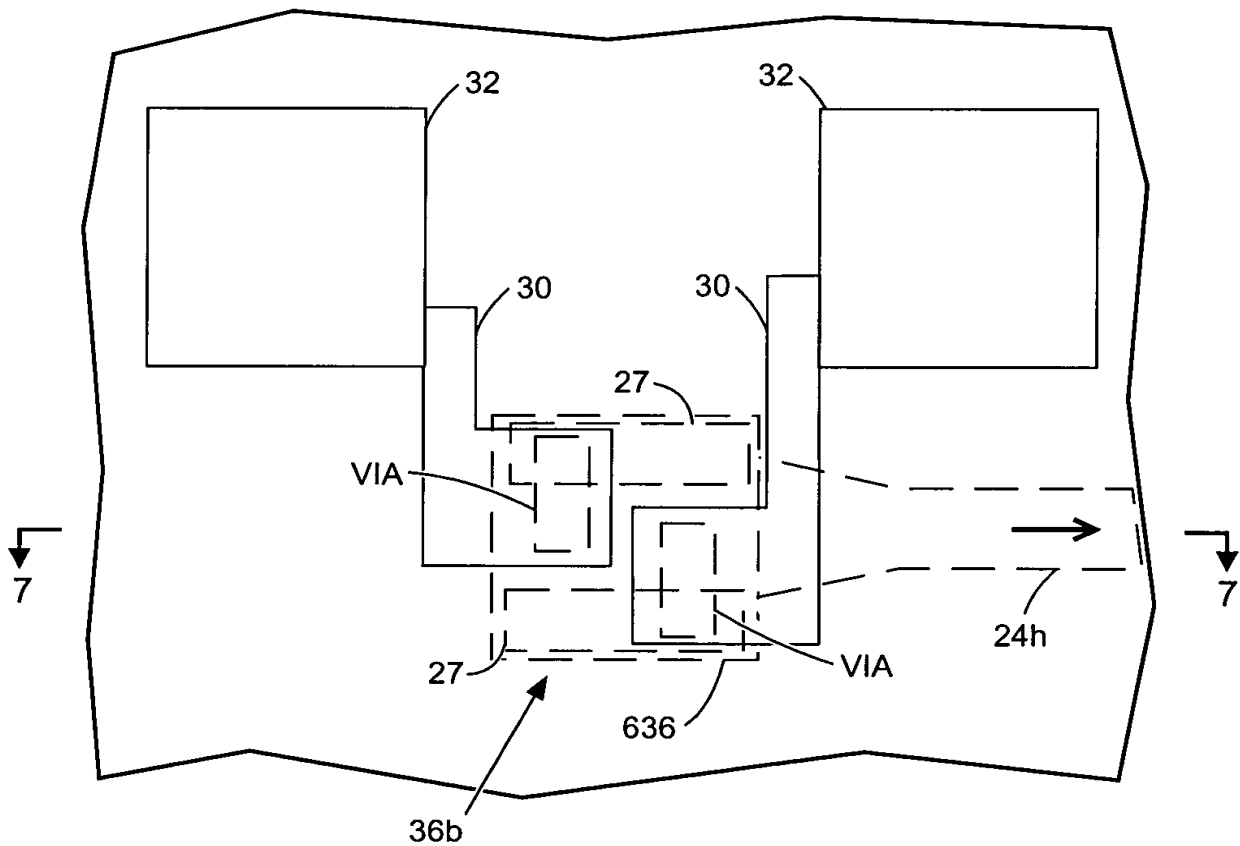
FIG. 5-1







**FIG.\_7**



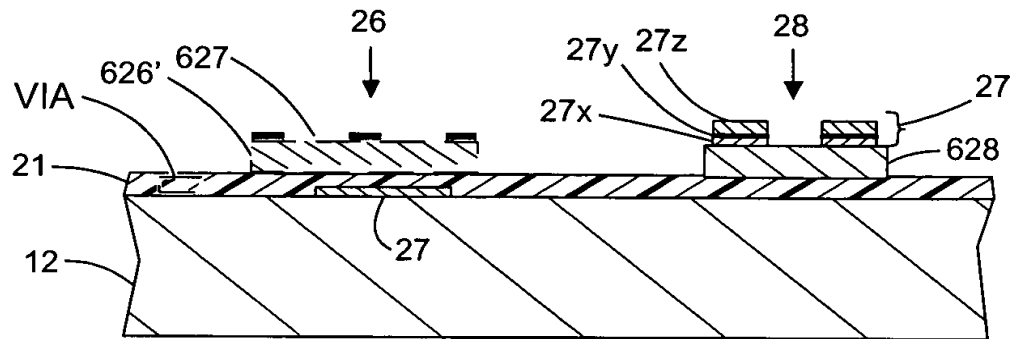
**FIG.\_8**



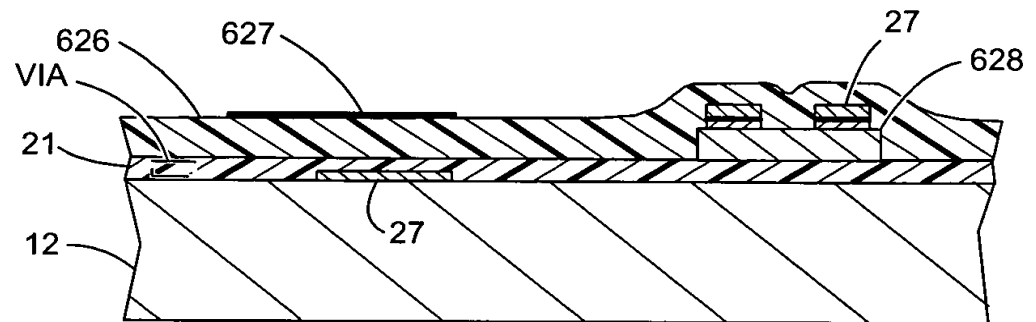


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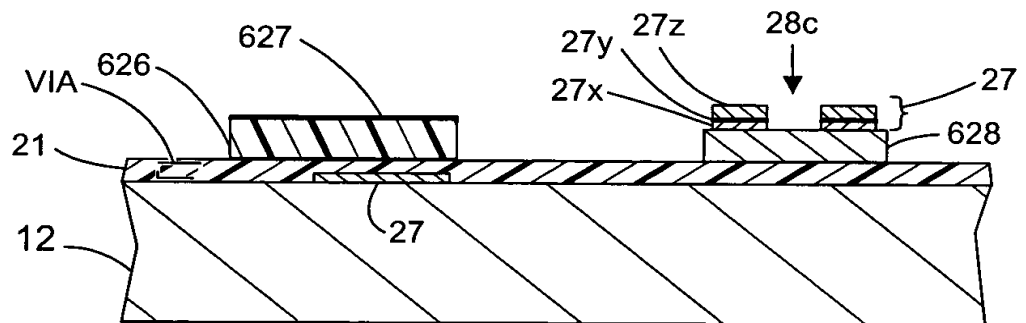
**FIG.\_11**



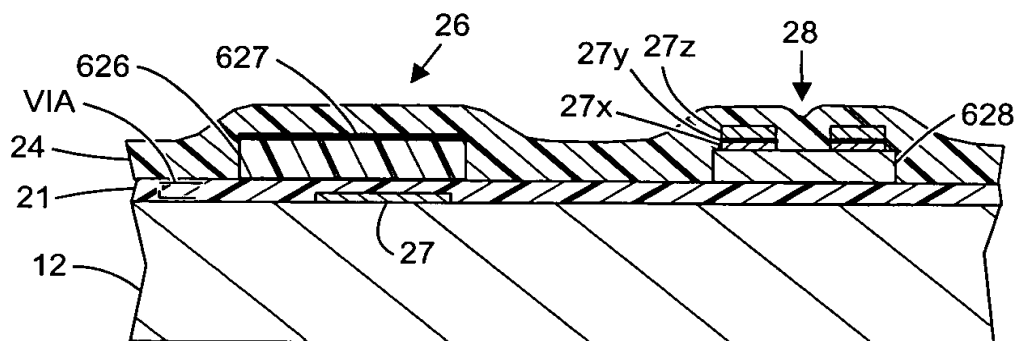
**FIG.\_12**



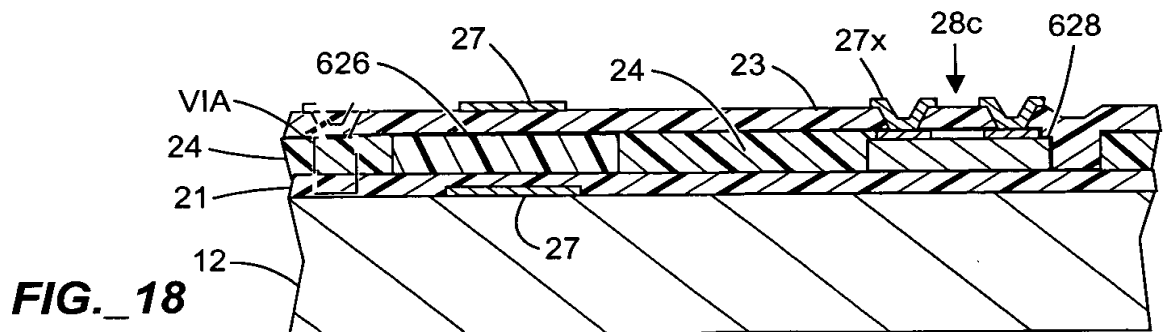
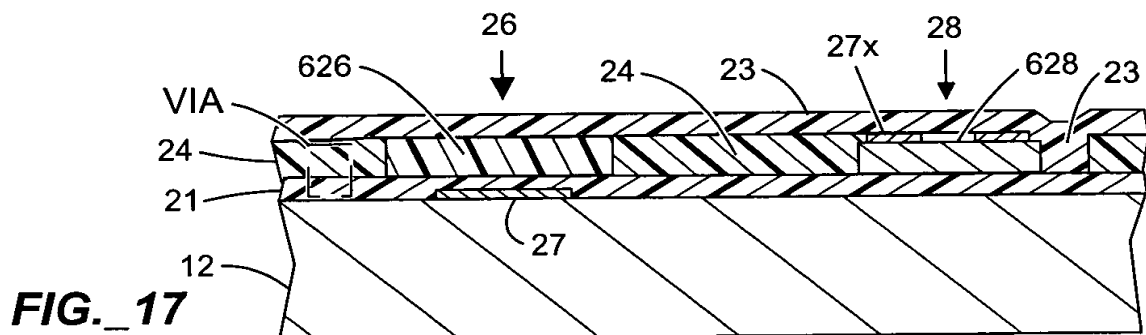
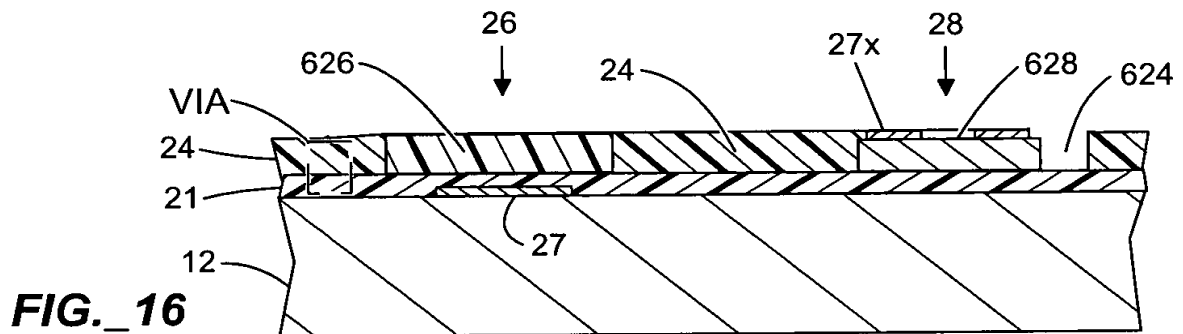
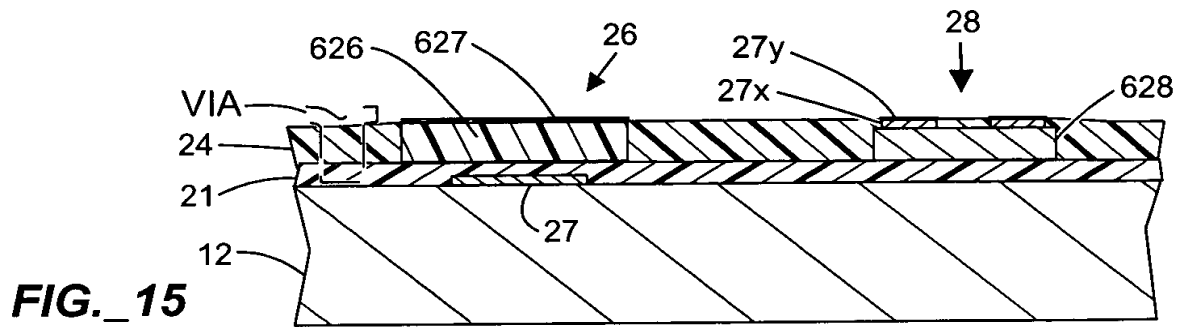
**FIG.\_13**



**FIG.\_14**







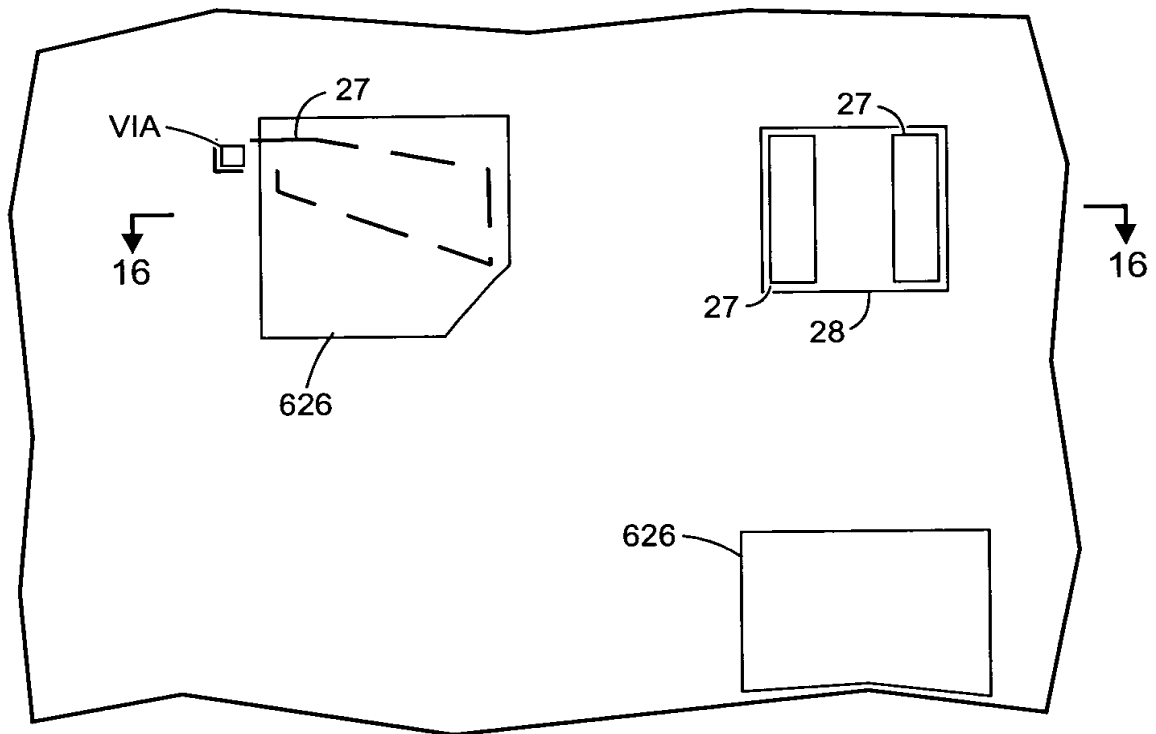


FIG. 19

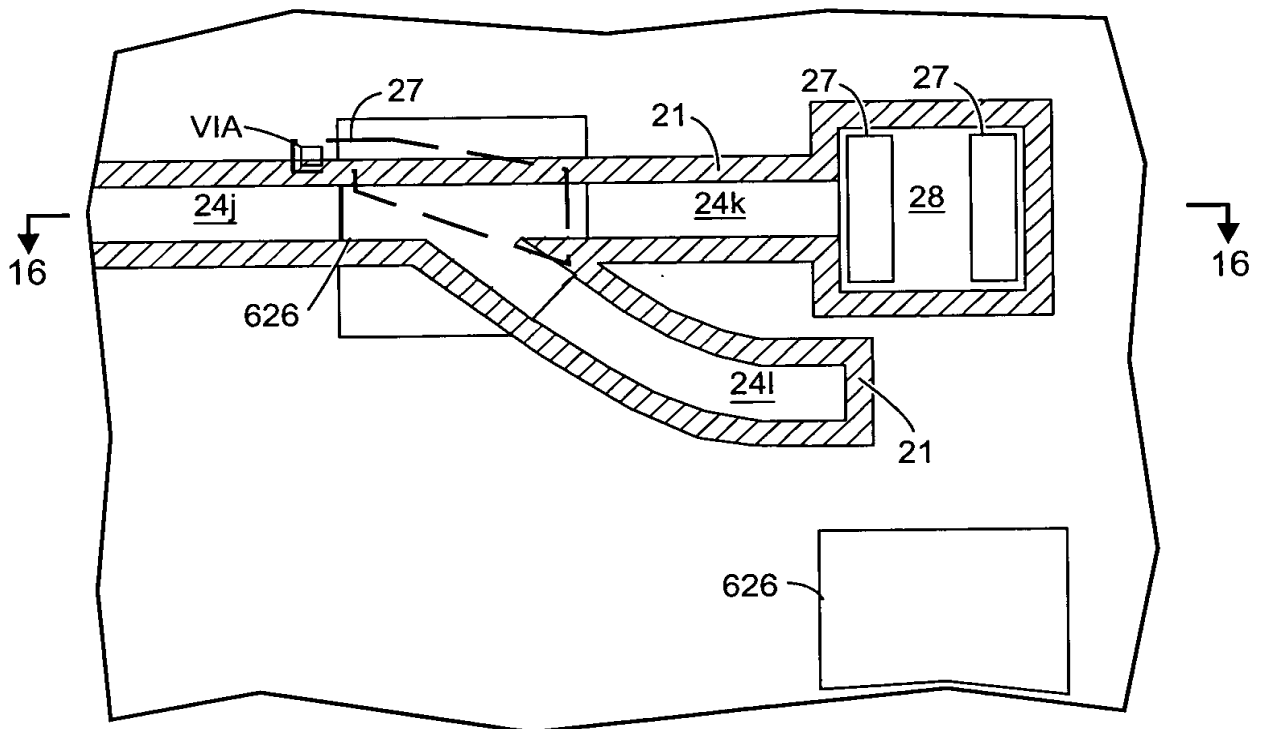
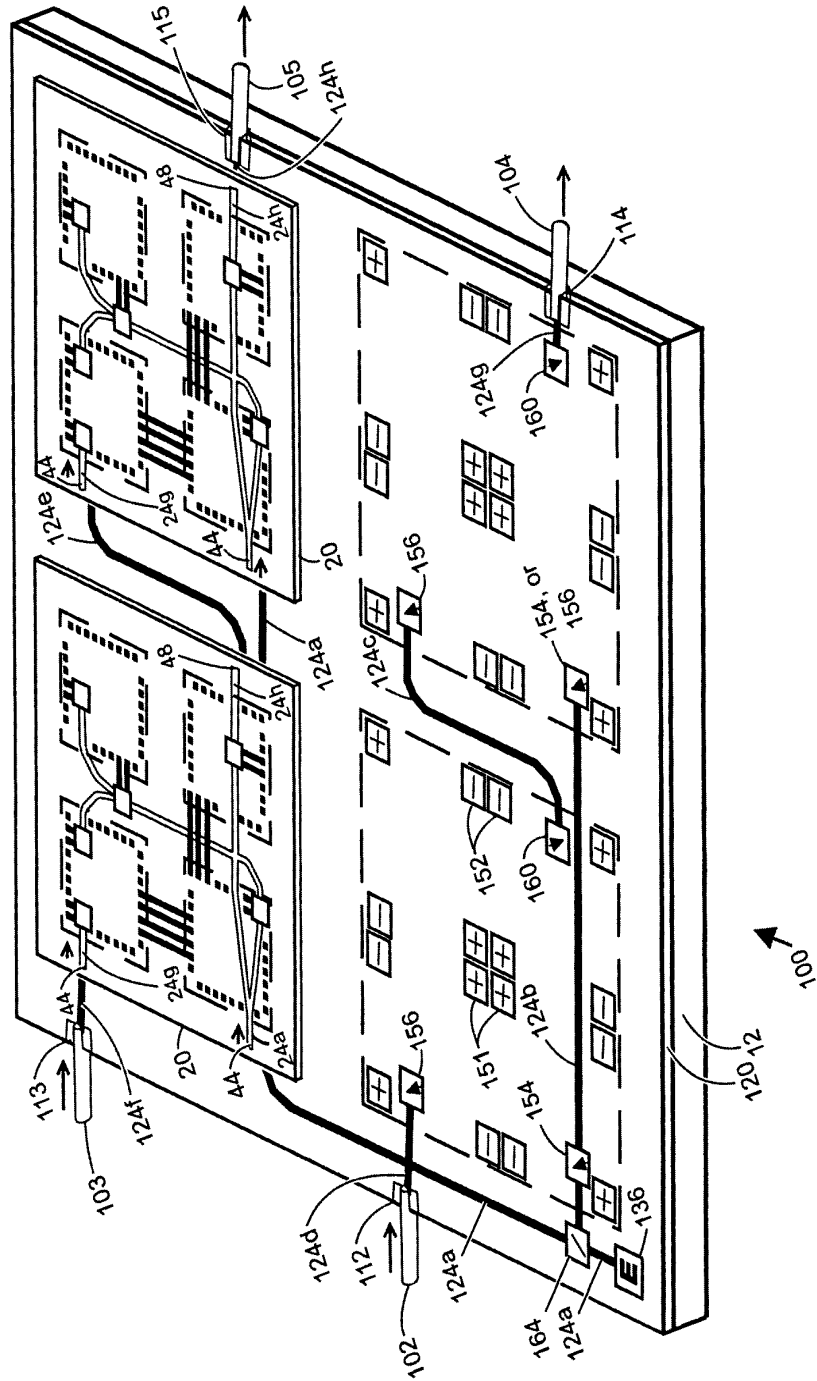
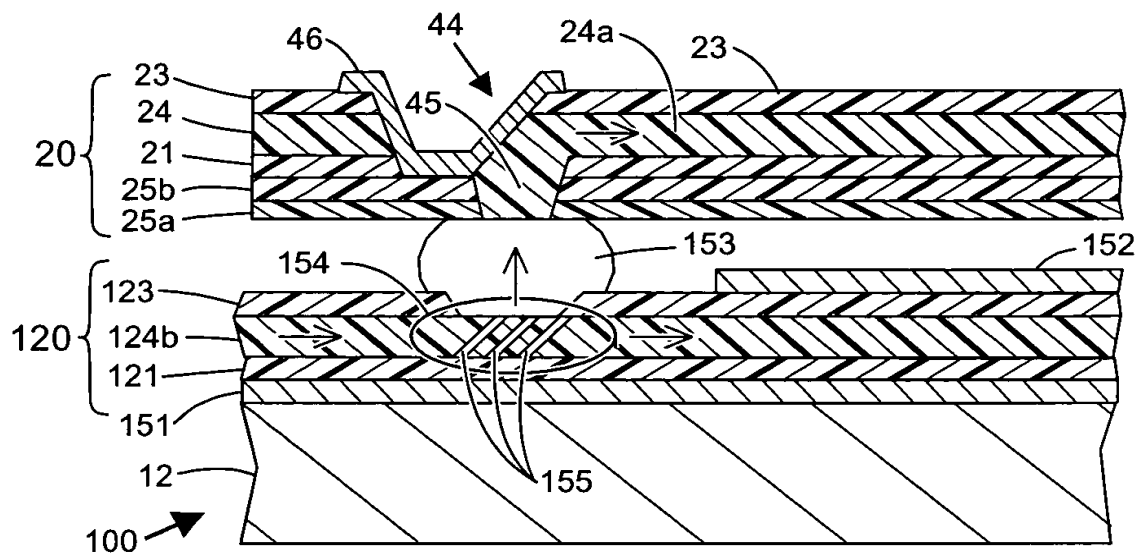


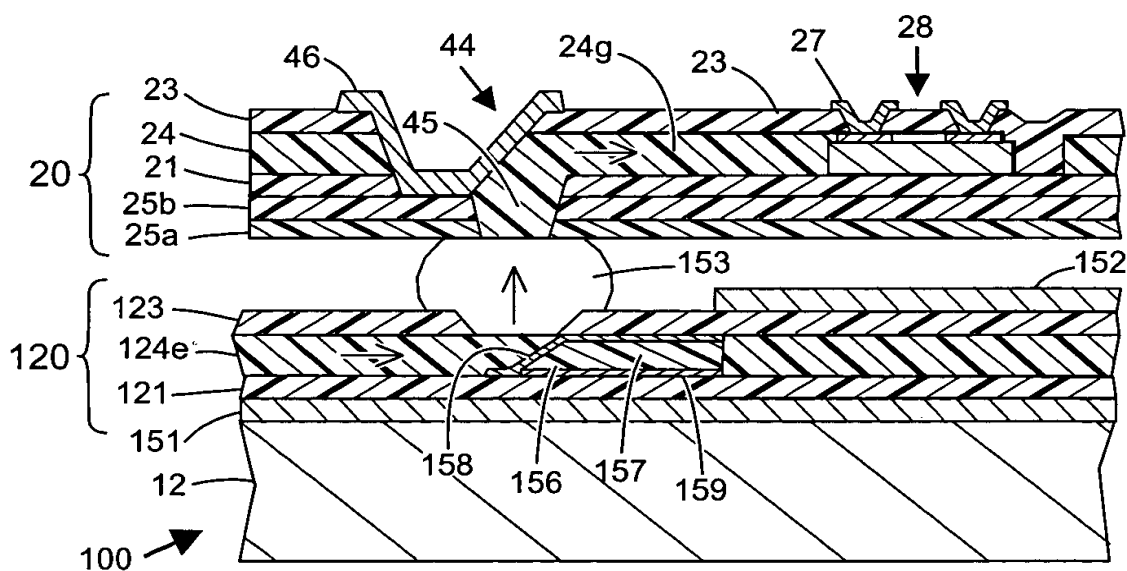
FIG. 20



**FIG. 21**



**FIG.\_22**



**FIG.\_23**



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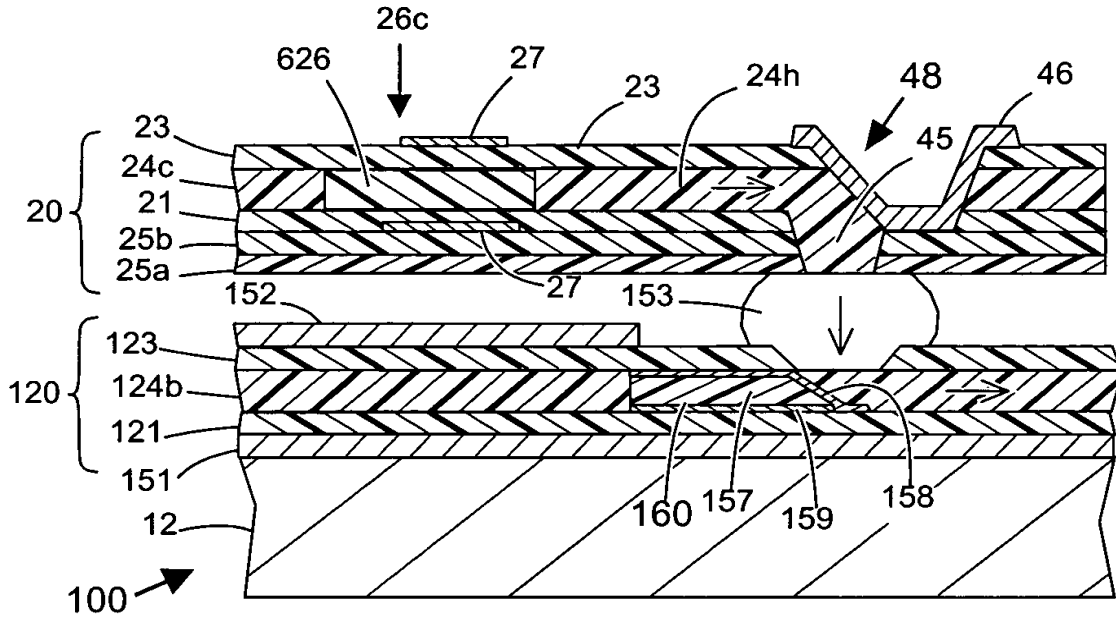


FIG. 24

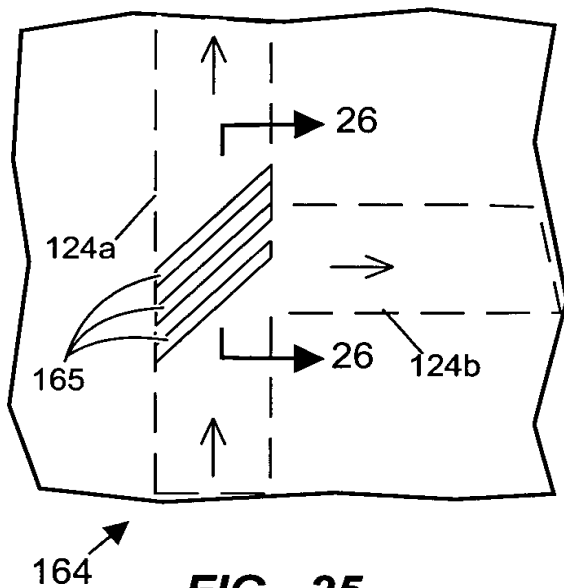


FIG. 25

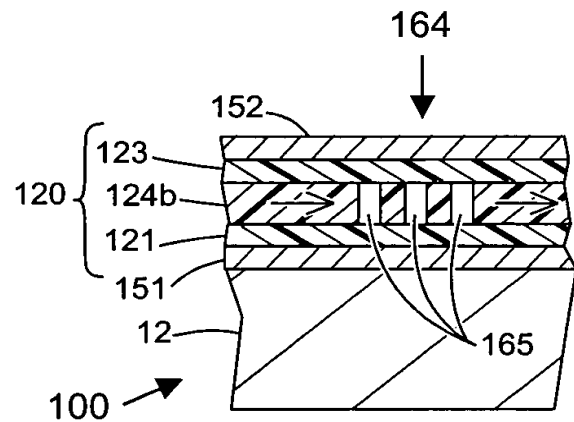
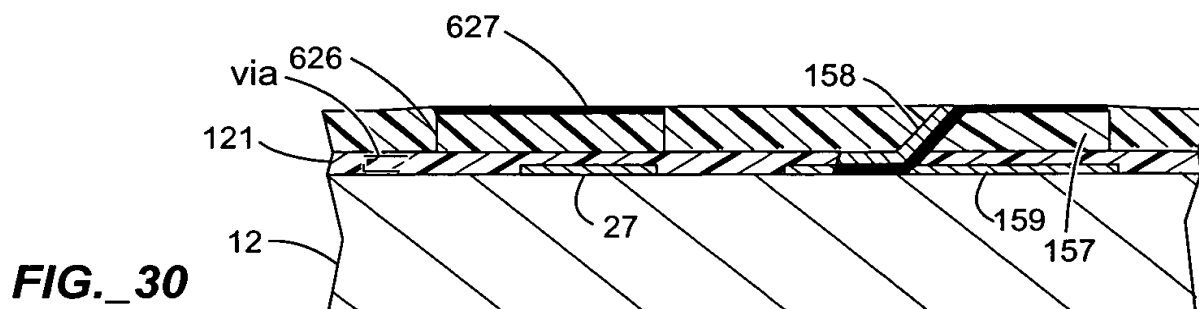
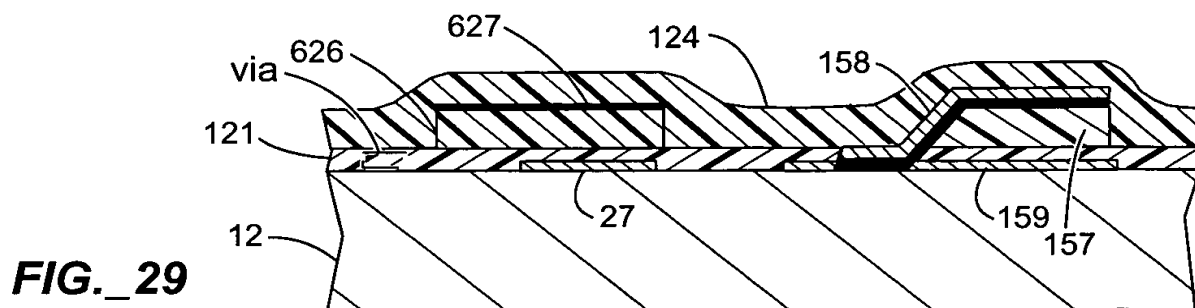
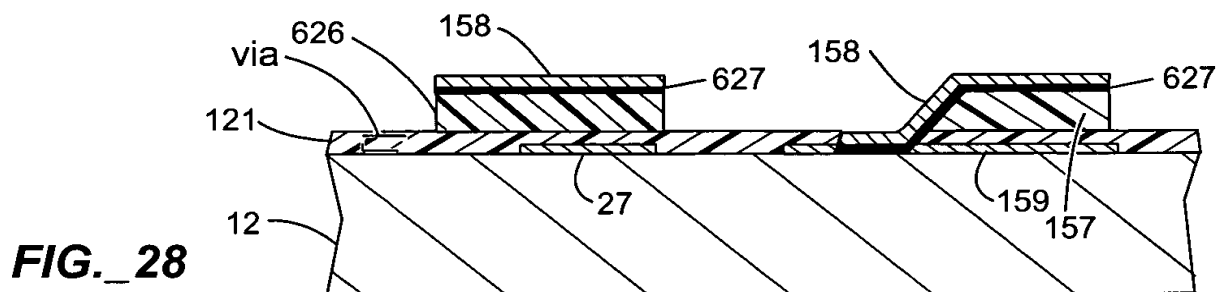
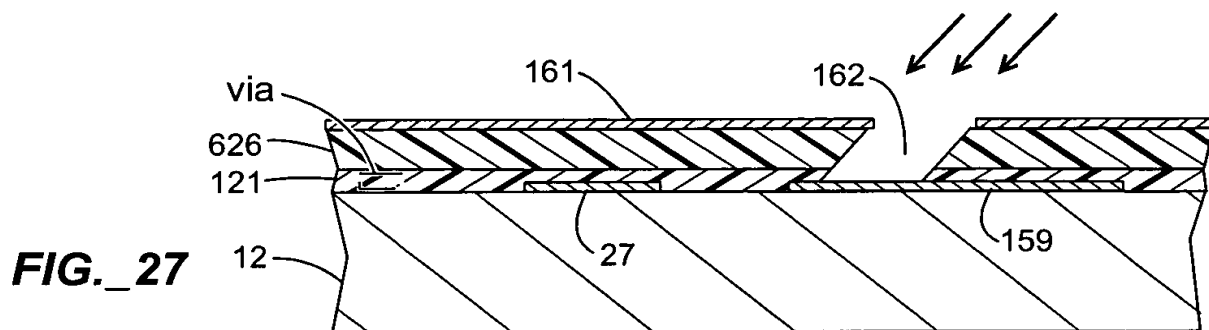
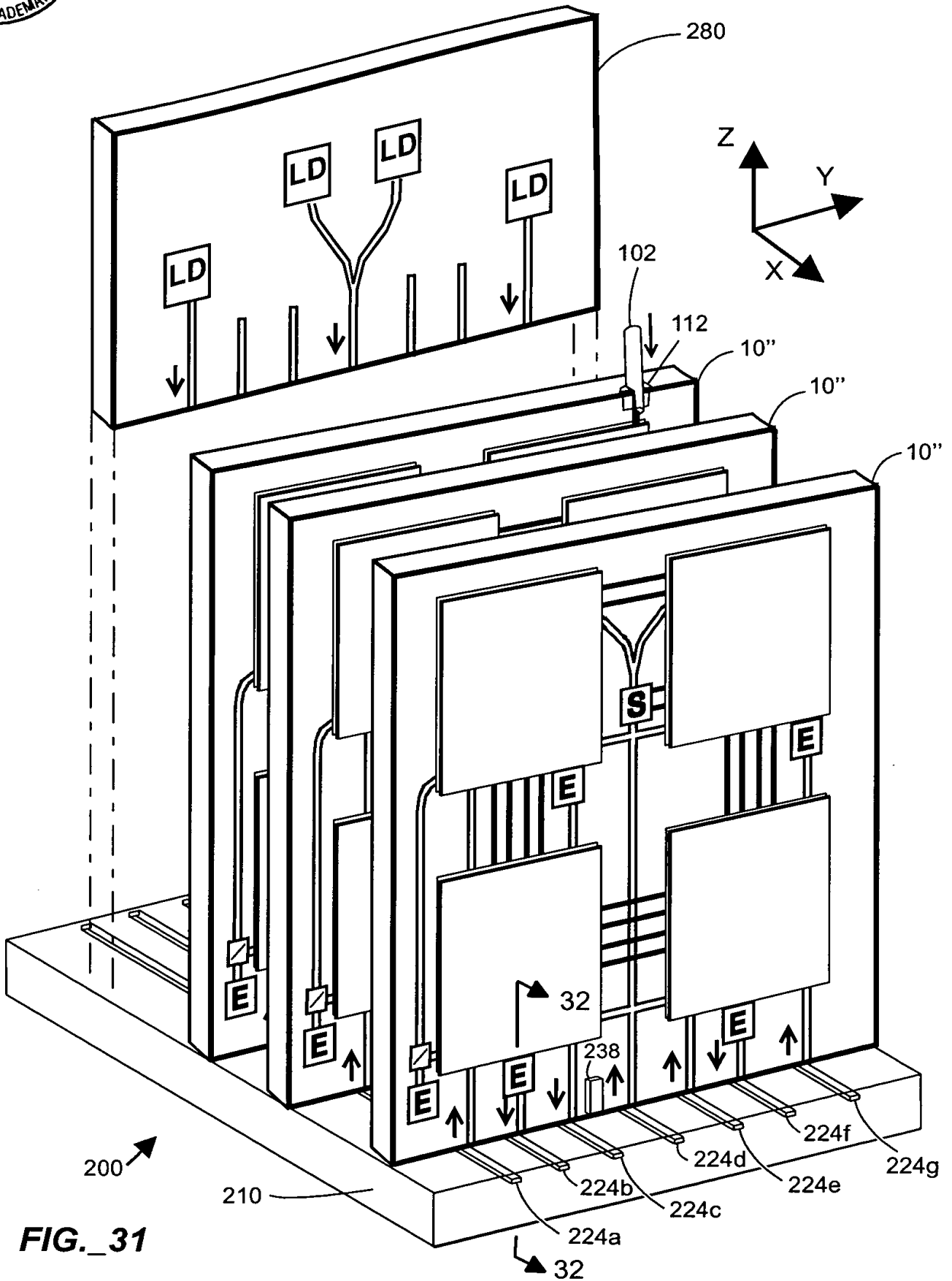


FIG. 26





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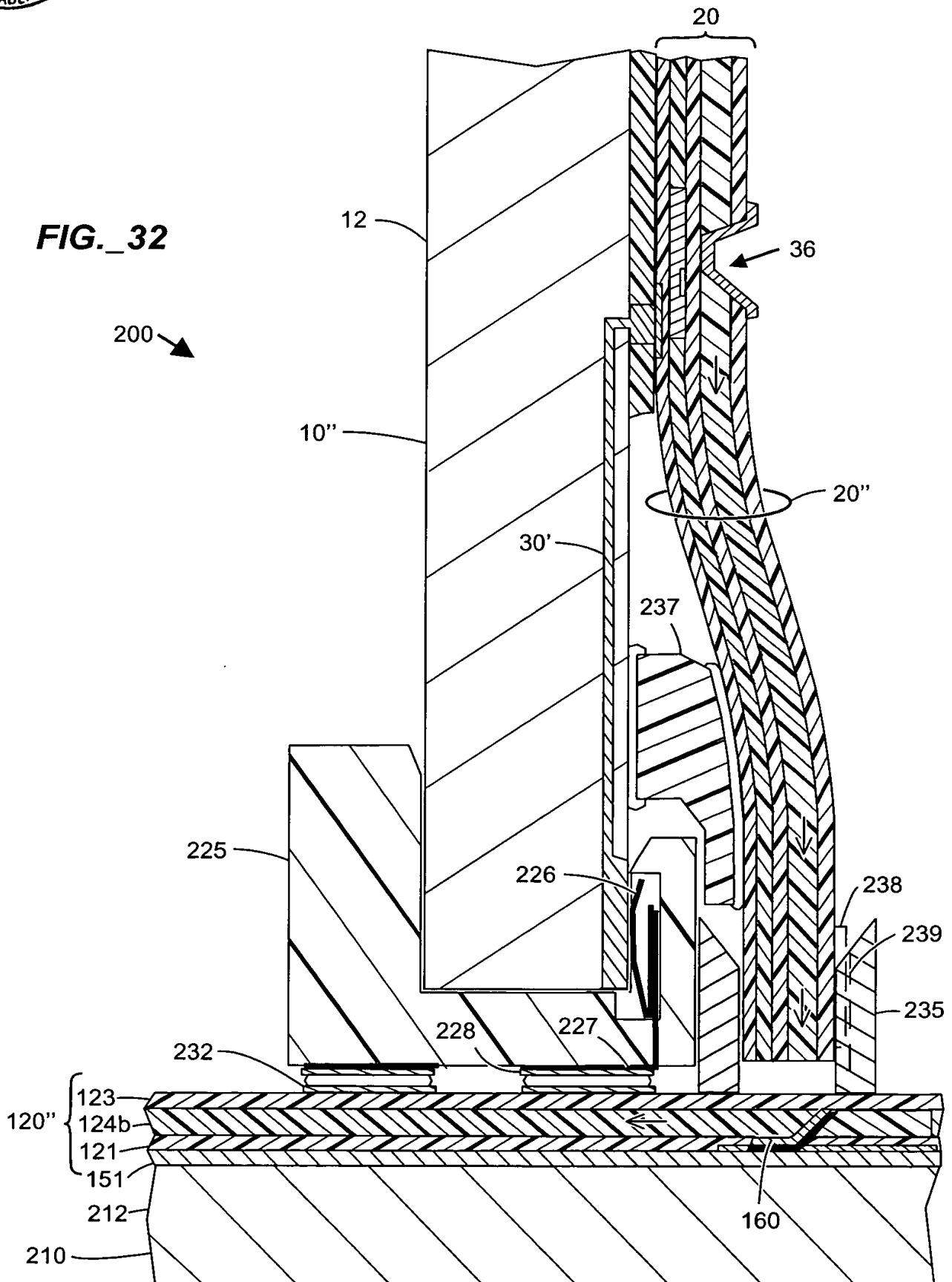


**FIG. 31**



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**FIG. 32**

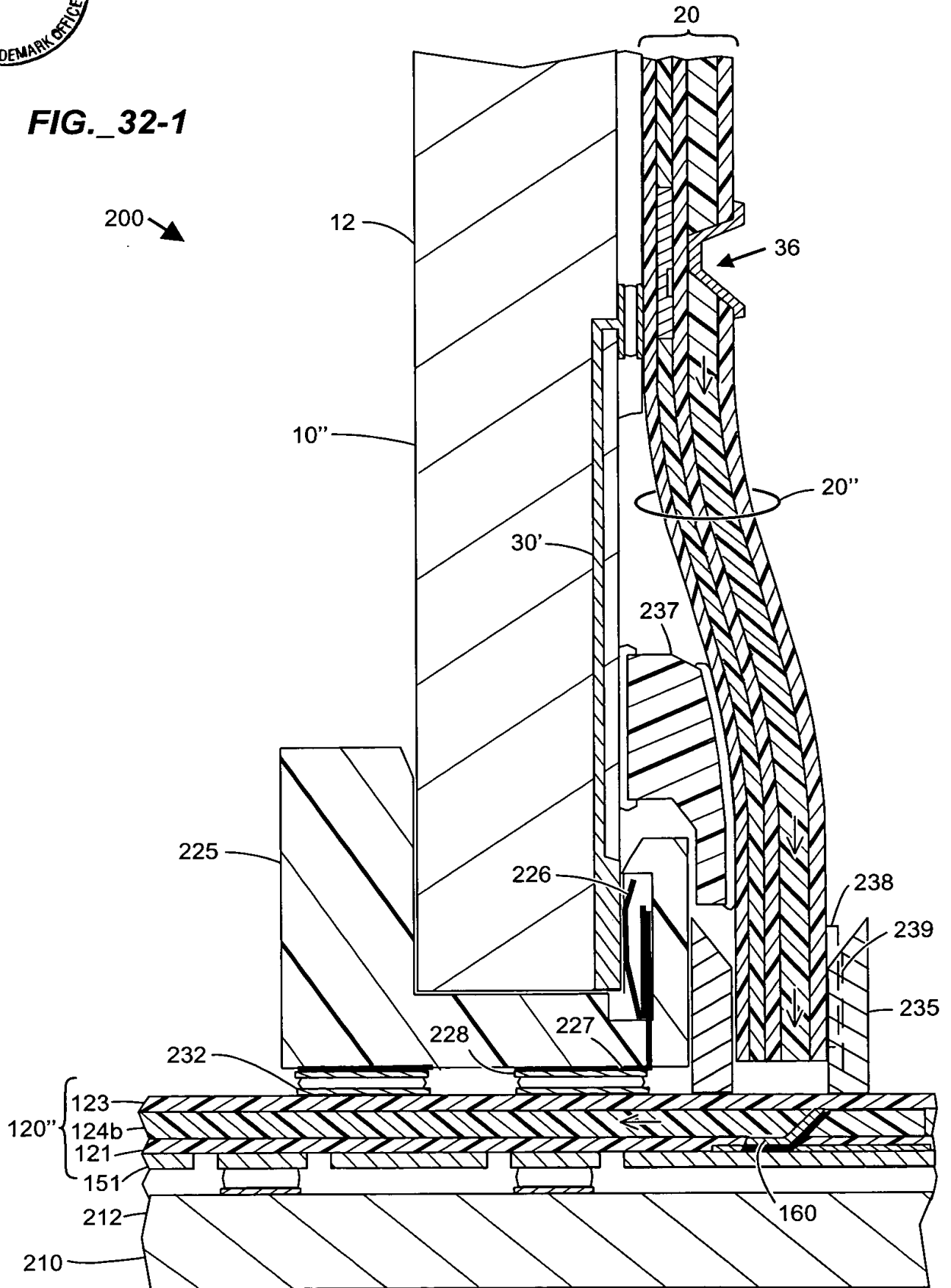


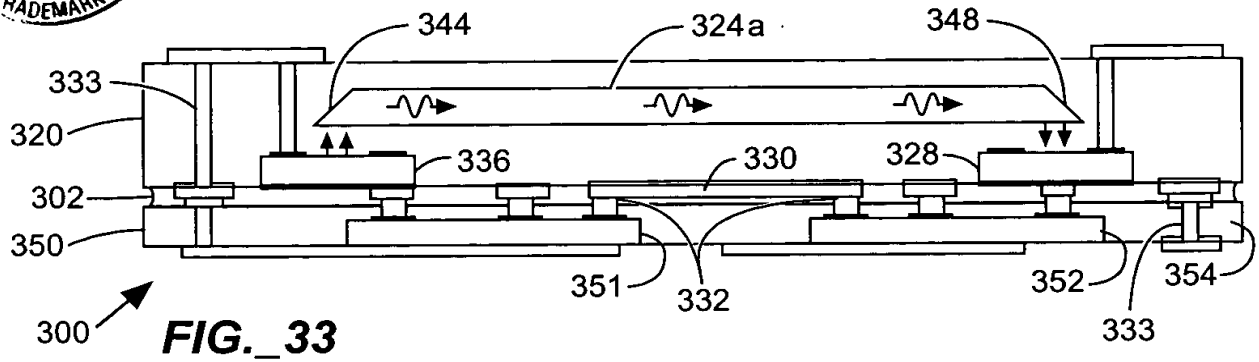


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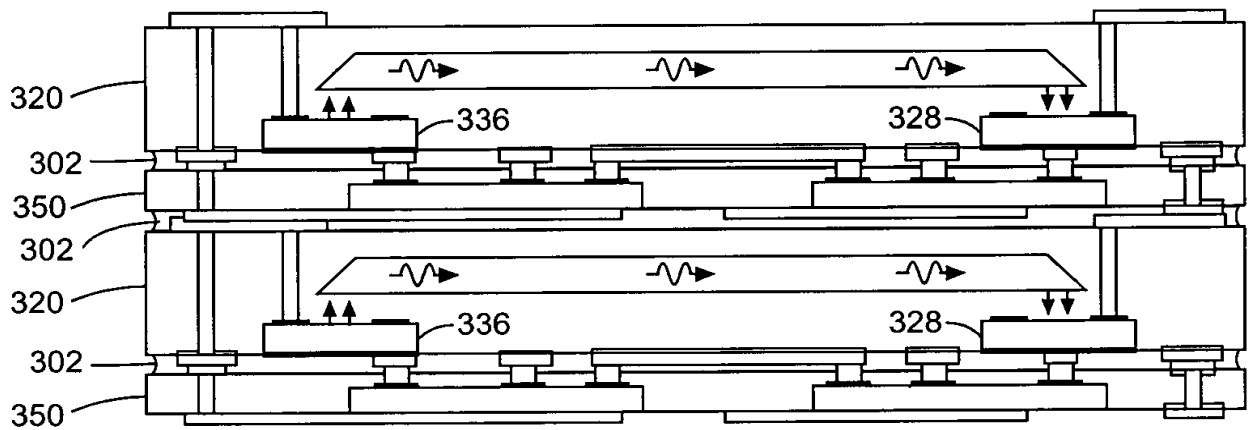


**FIG. 32-1**

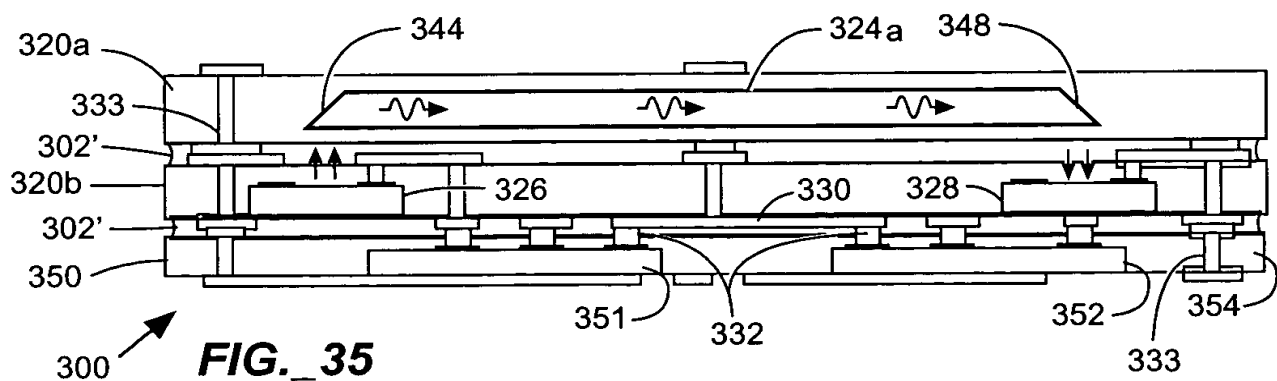




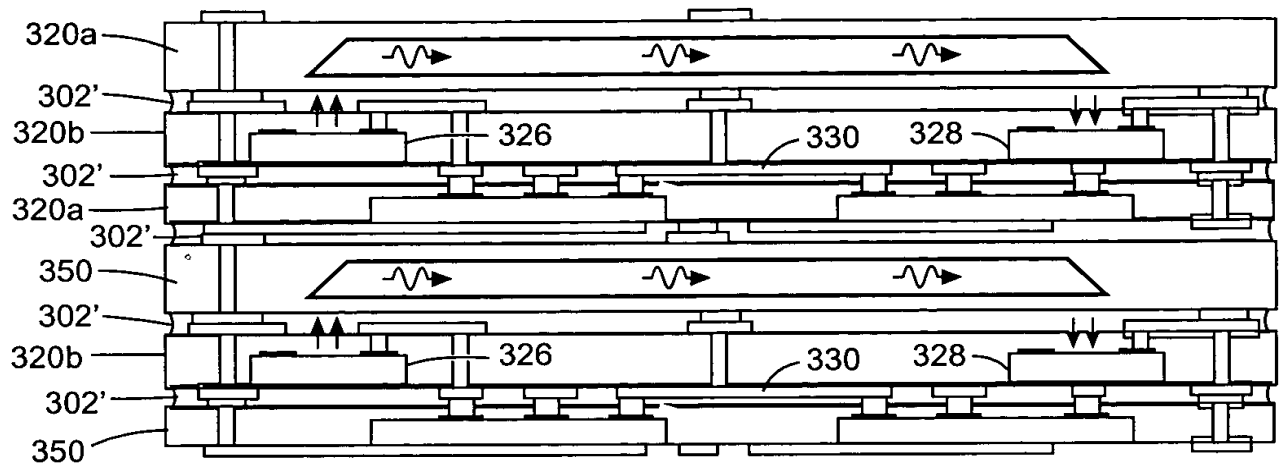
**FIG. 33**



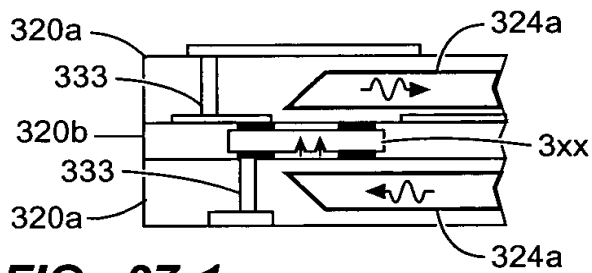
**FIG. 34**



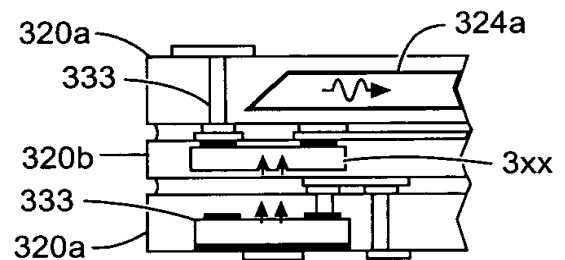
**FIG. 35**



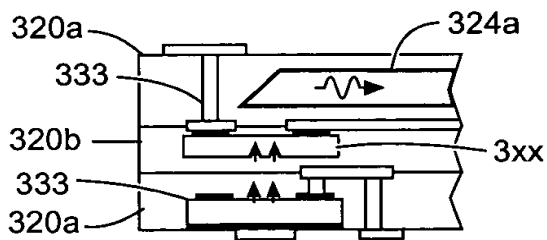
**FIG. 36**



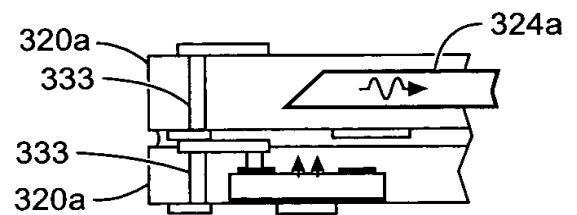
**FIG. 37-1**



**FIG. 37-2**



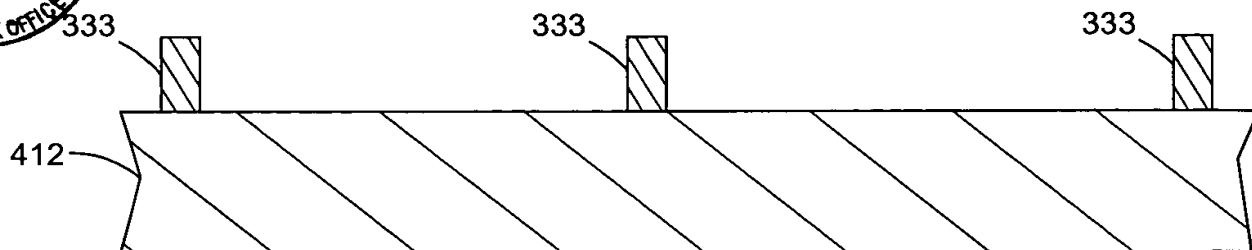
**FIG. 37-3**



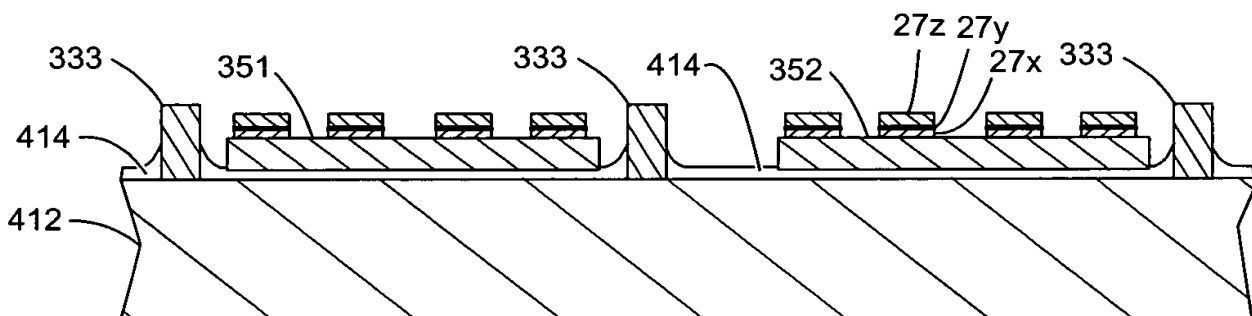
**FIG. 37-4**



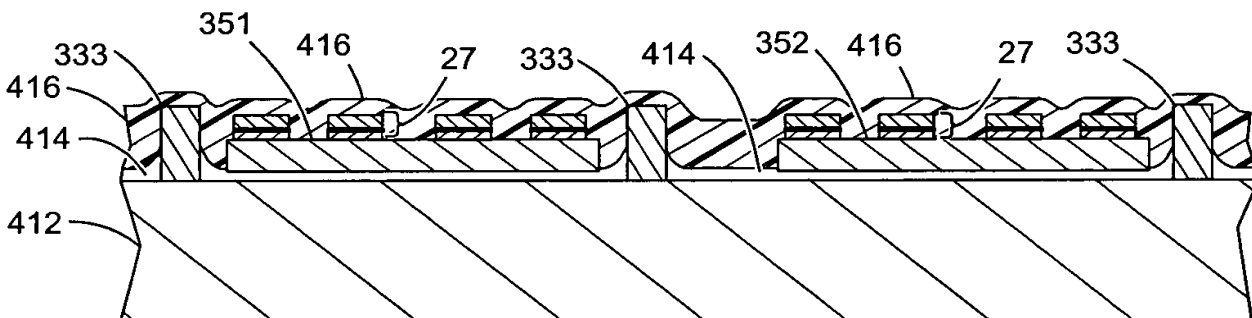
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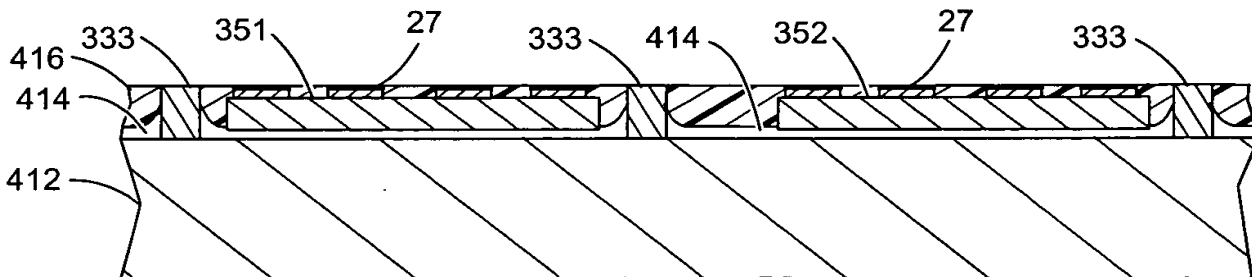
**FIG. 38**



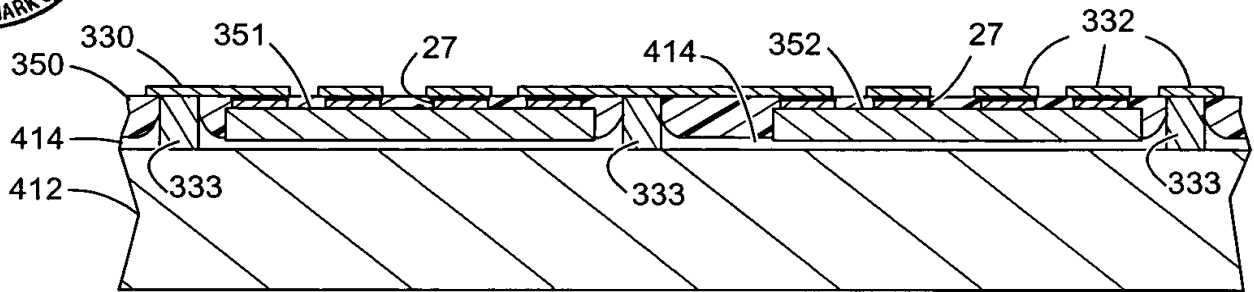
**FIG. 39**



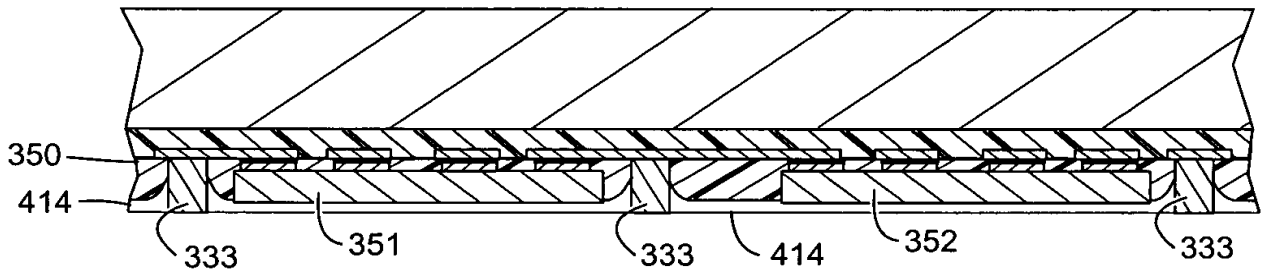
**FIG. 40**



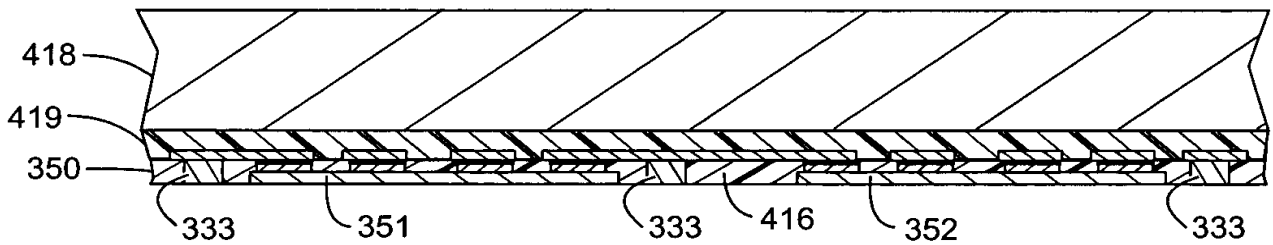
**FIG. 41**



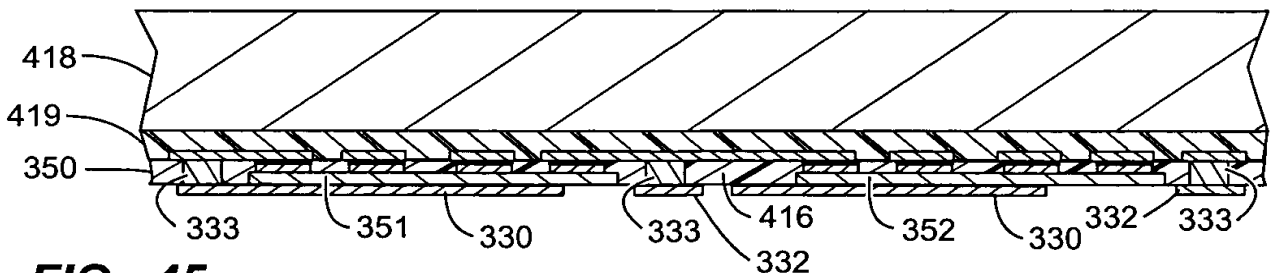
**FIG. 42**



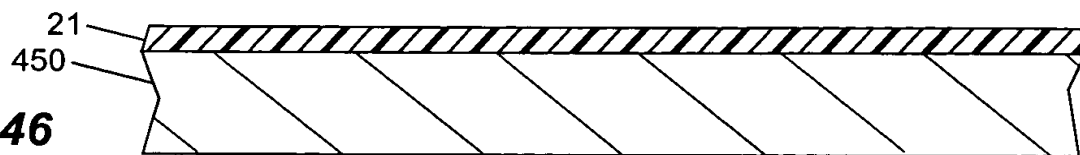
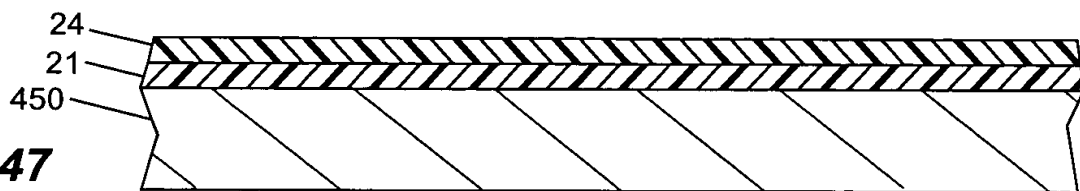
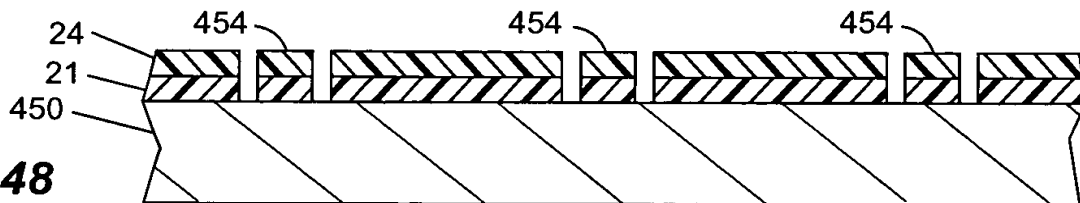
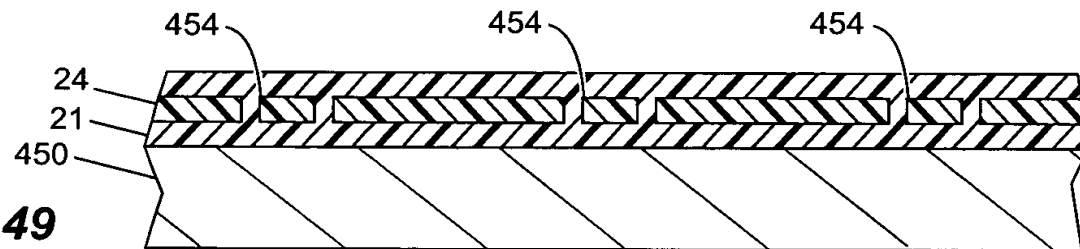
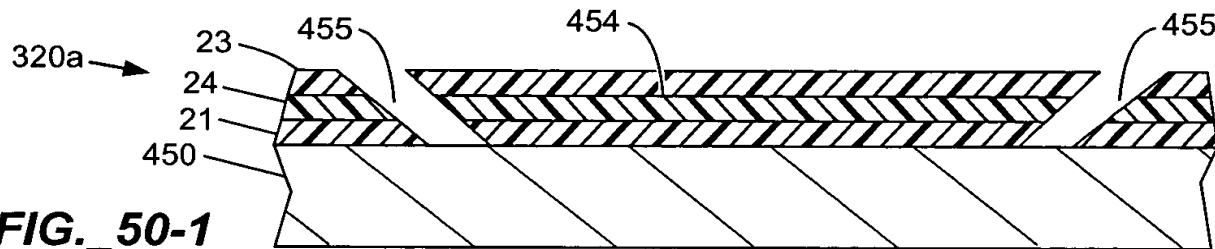
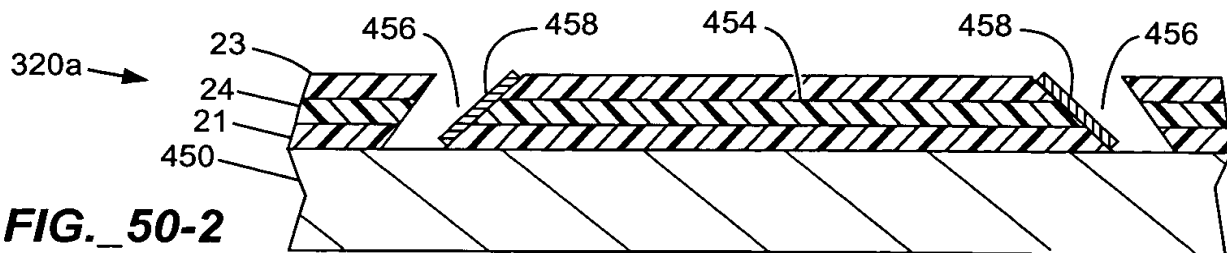
**FIG. 43**

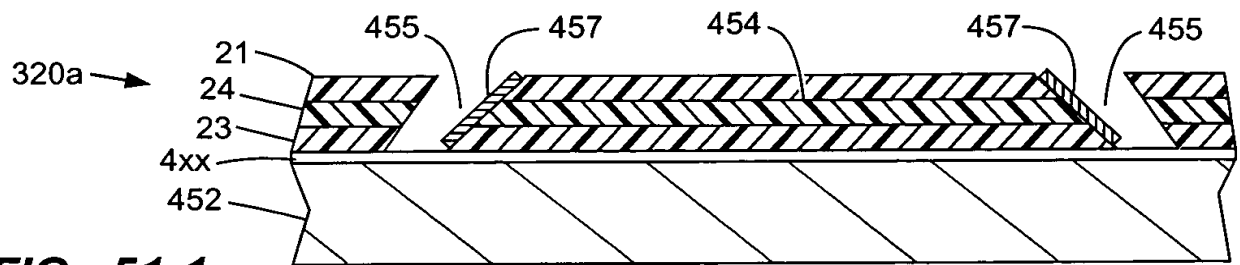


**FIG. 44**

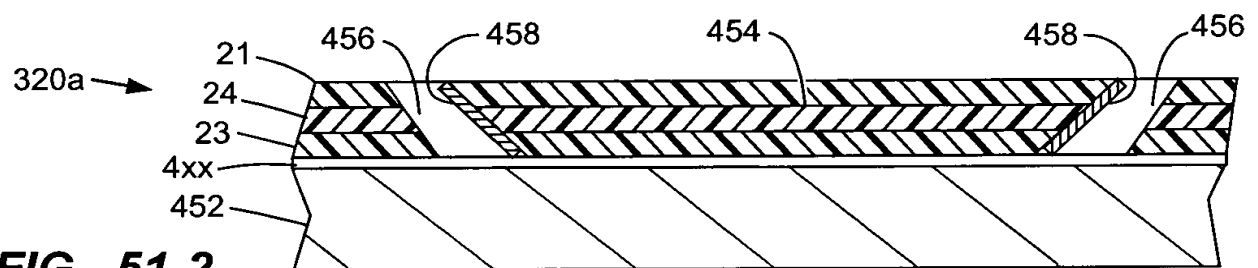


**FIG. 45**

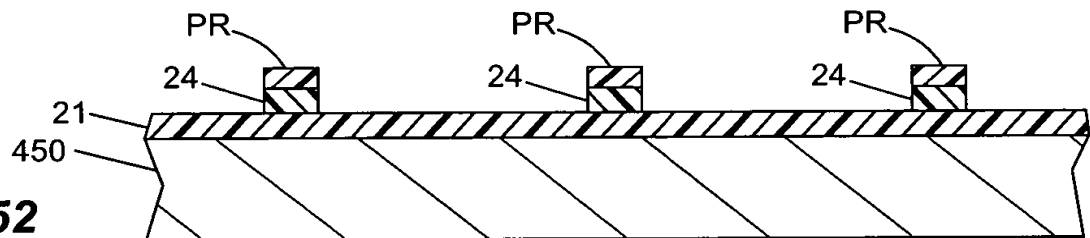
**FIG. 46****FIG. 47****FIG. 48****FIG. 49****FIG. 50-1****FIG. 50-2**



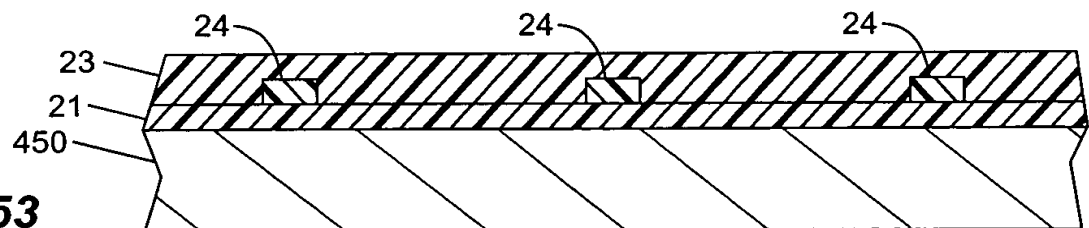
**FIG. 51-1**



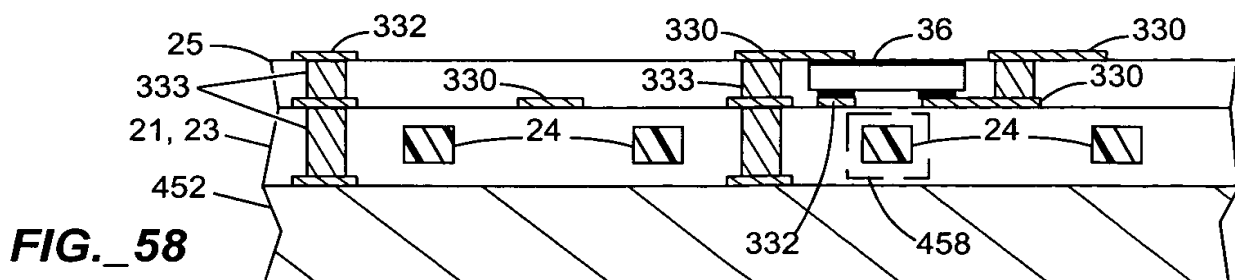
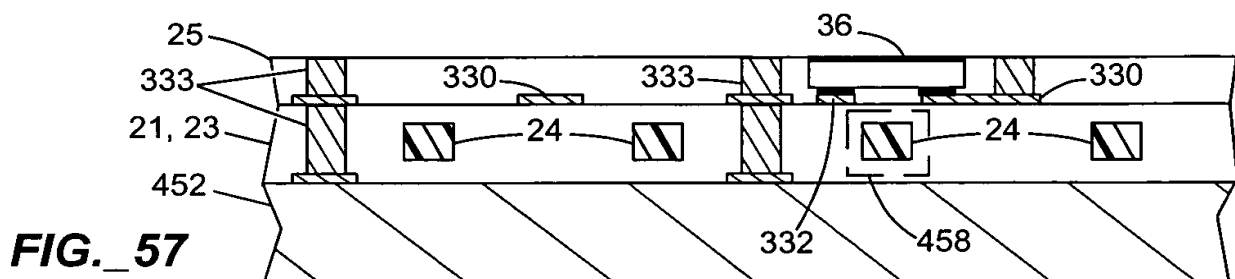
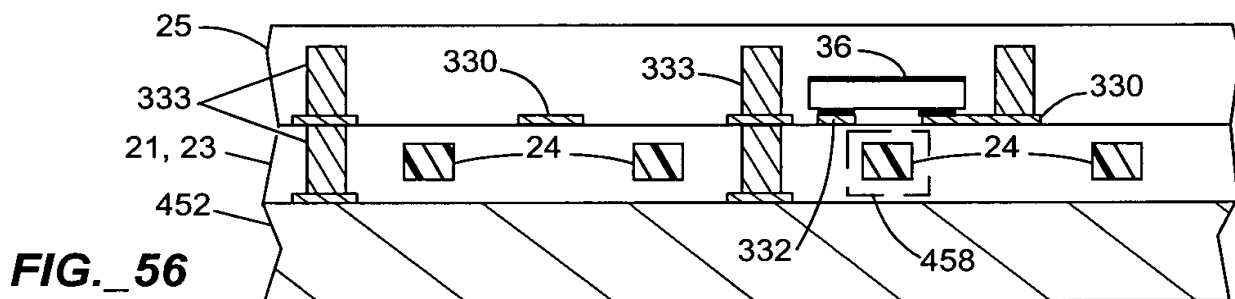
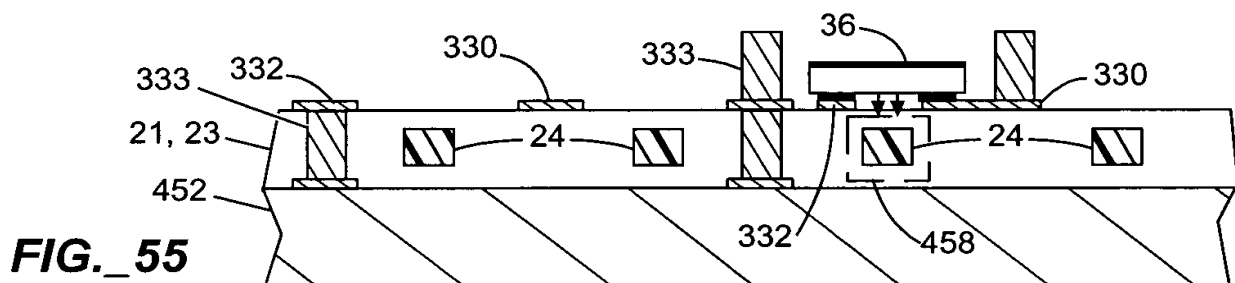
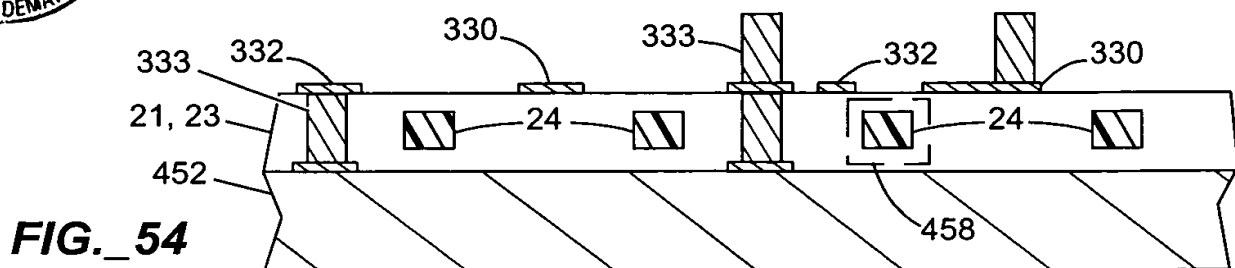
**FIG. 51-2**



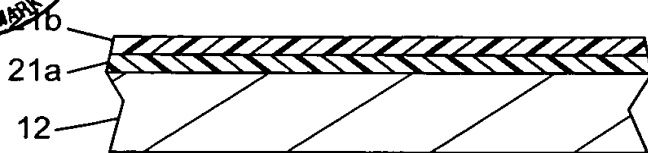
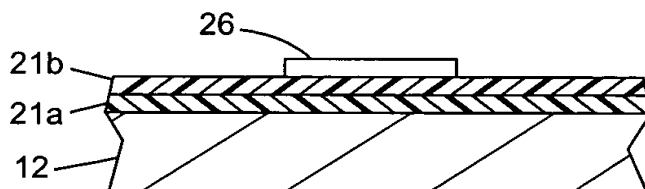
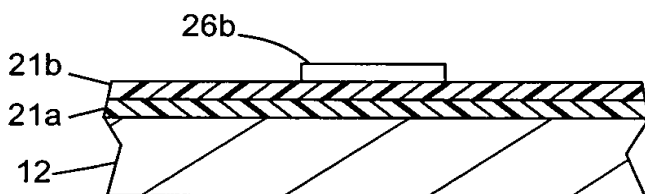
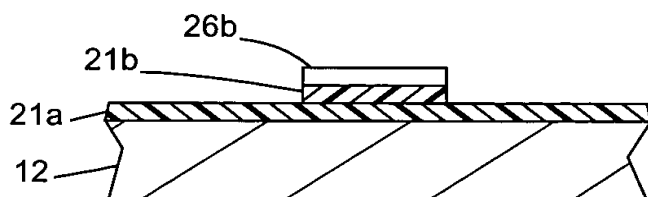
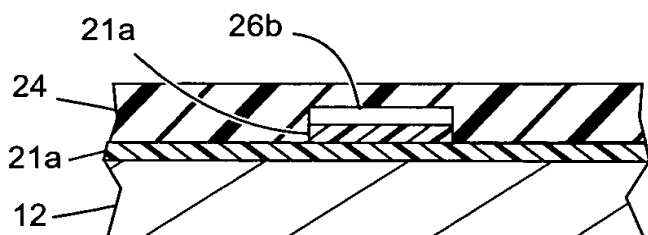
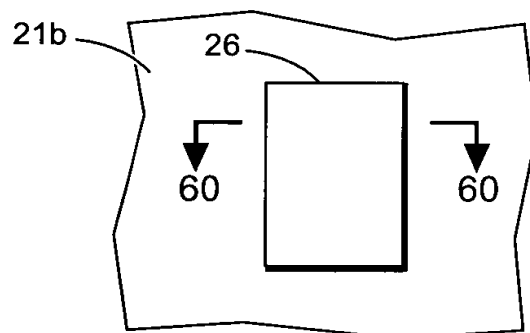
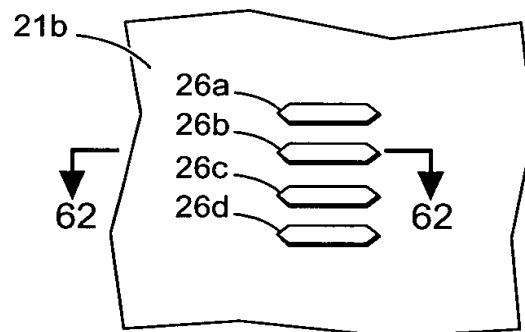
**FIG. 52**

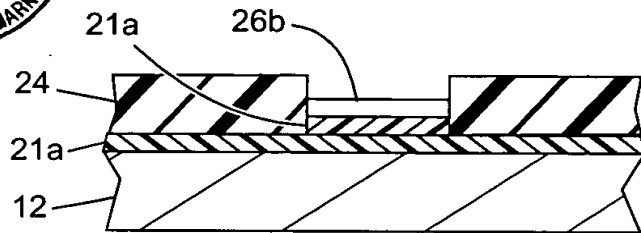


**FIG. 53**

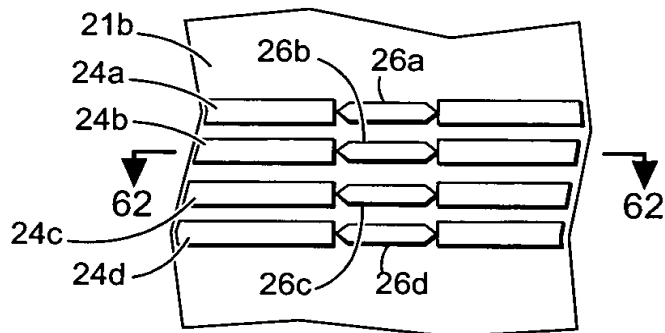




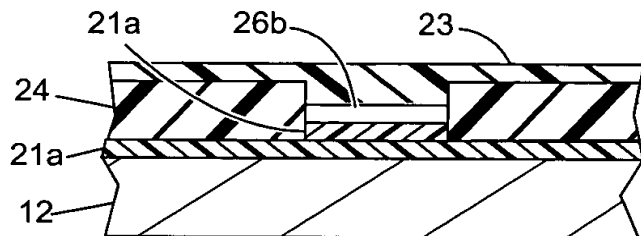
**FIG. 59****FIG. 60****FIG. 62****FIG. 64****FIG. 65****FIG. 61****FIG. 63**



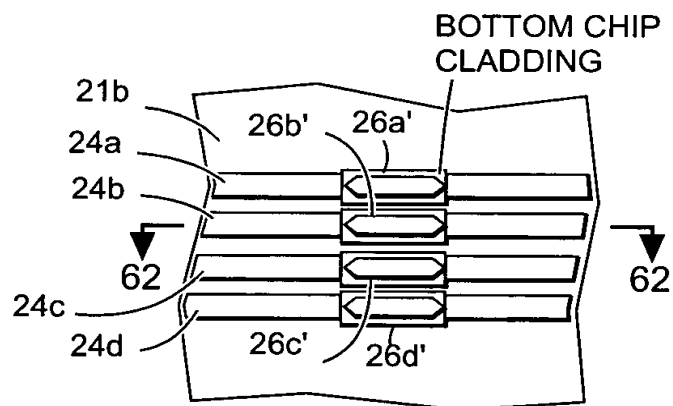
**FIG. 66**



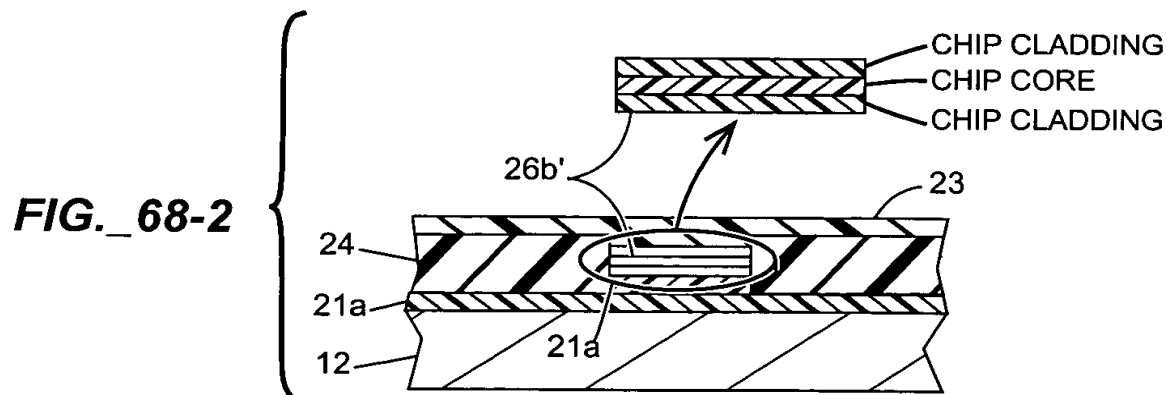
**FIG. 67**

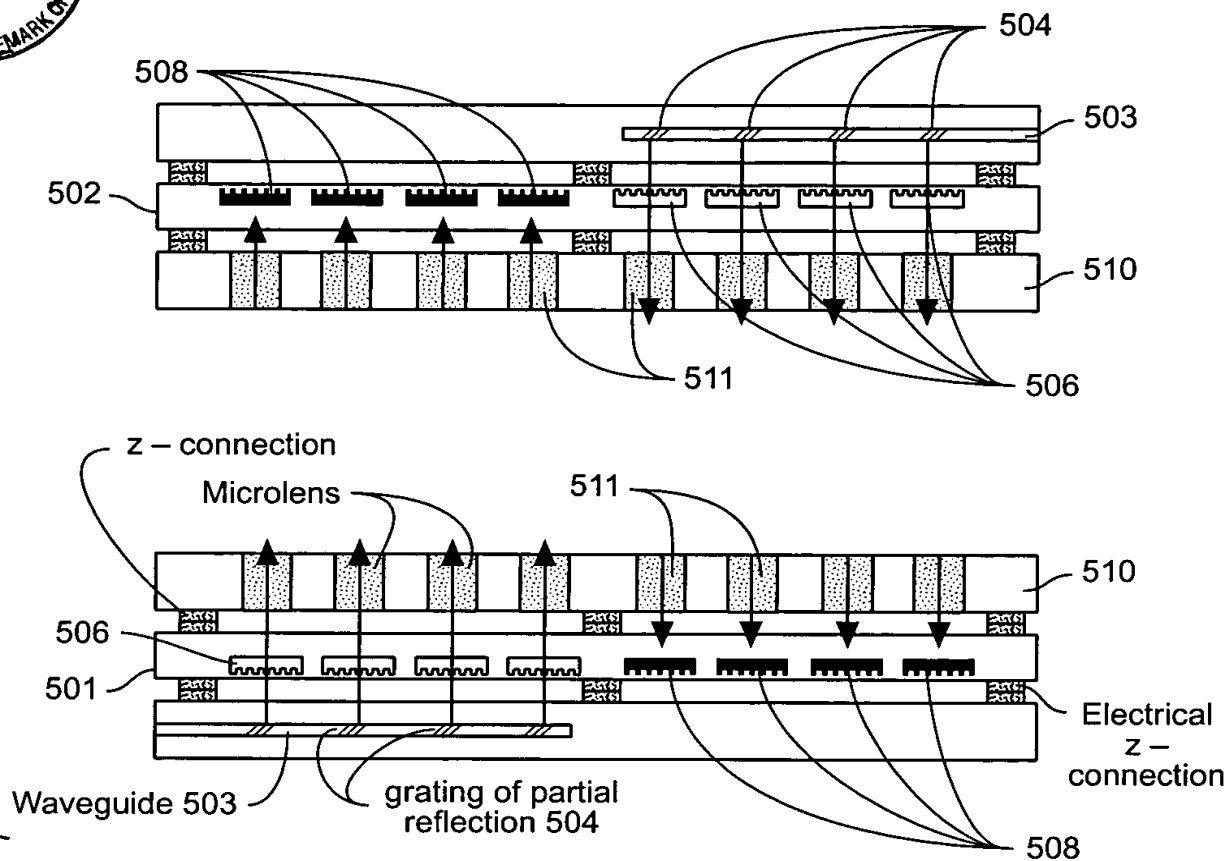


**FIG. 68**

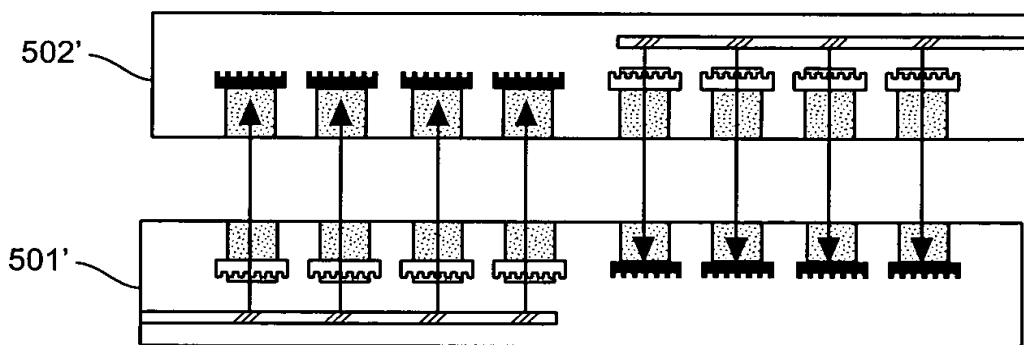


**FIG. 67-2**





**FIG. 69**



**FIG. 70**

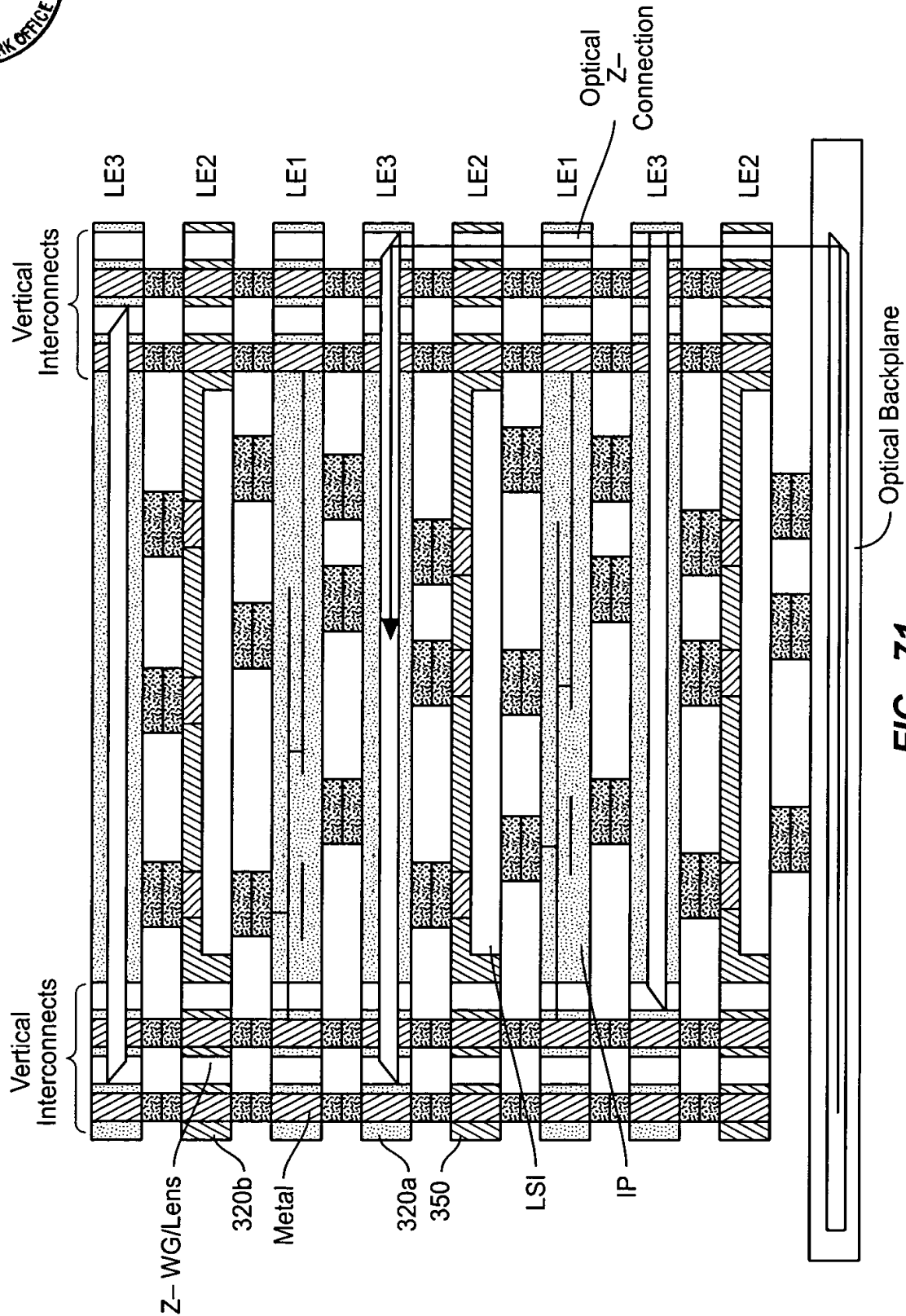
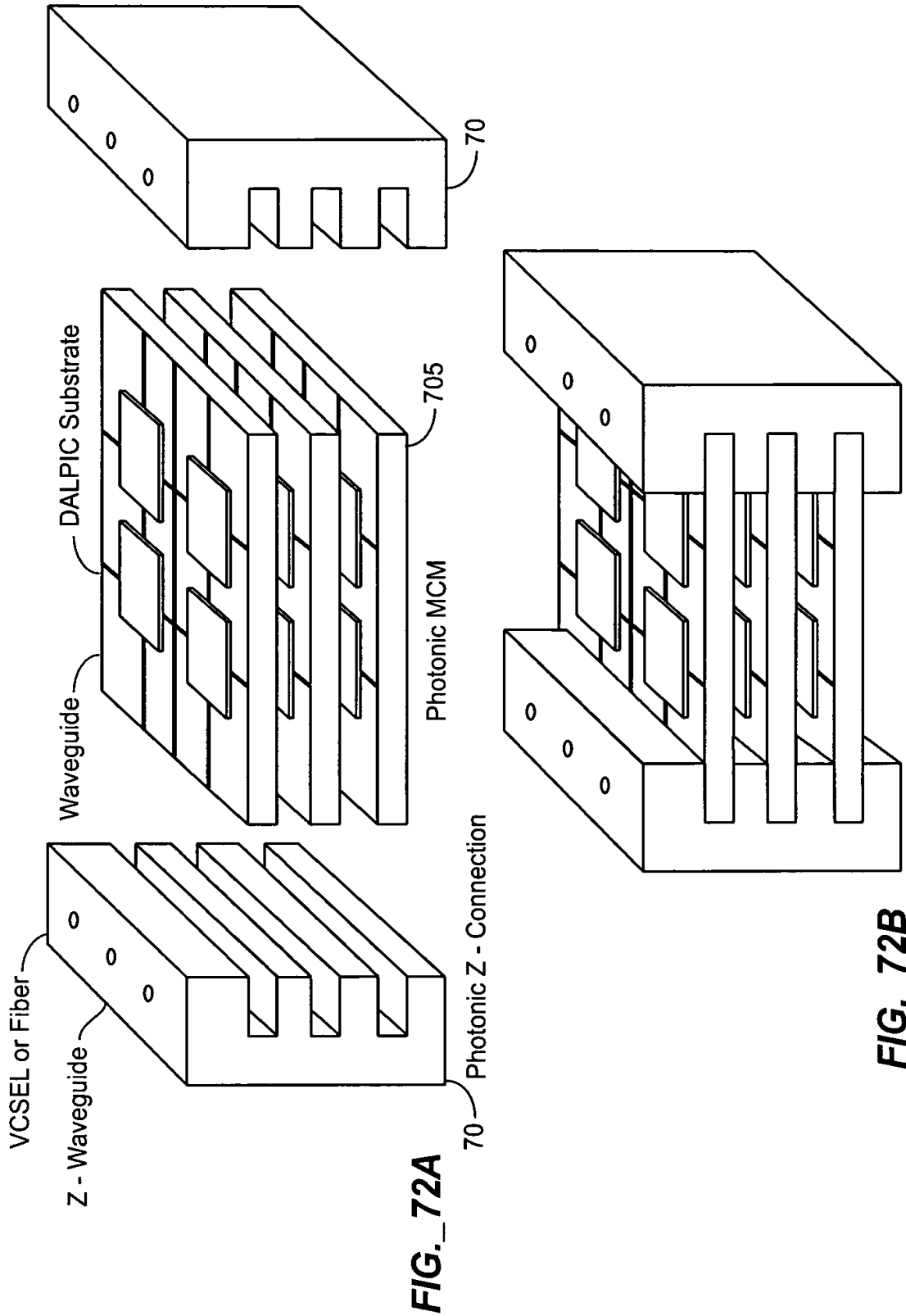


FIG. 71



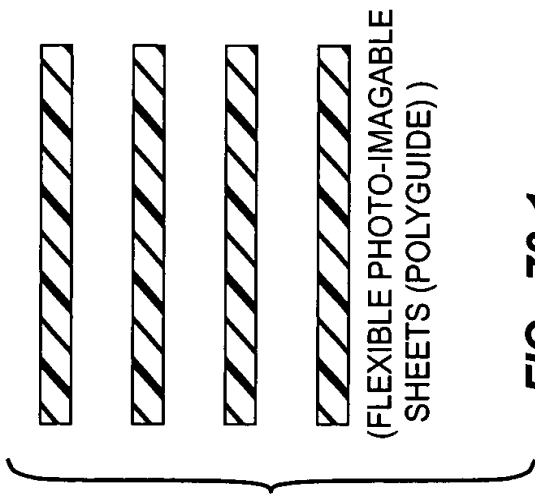


FIG. 73-1

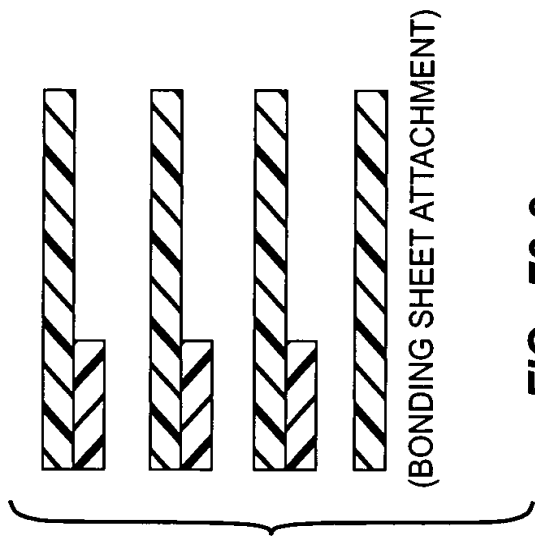


FIG. 73-2

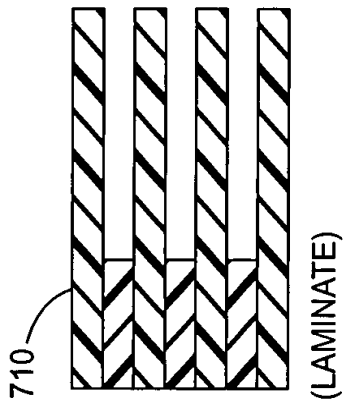


FIG. 73-3

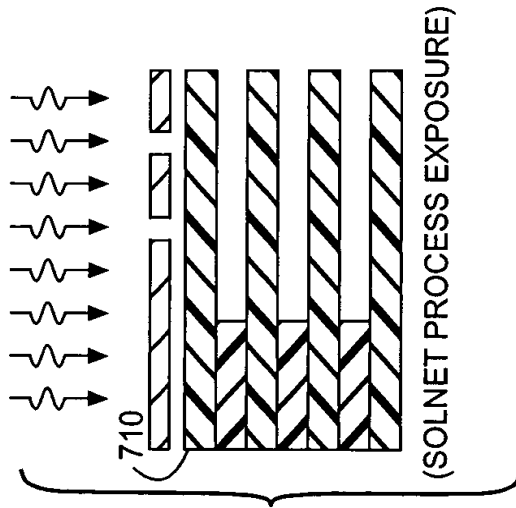


FIG. 73-4

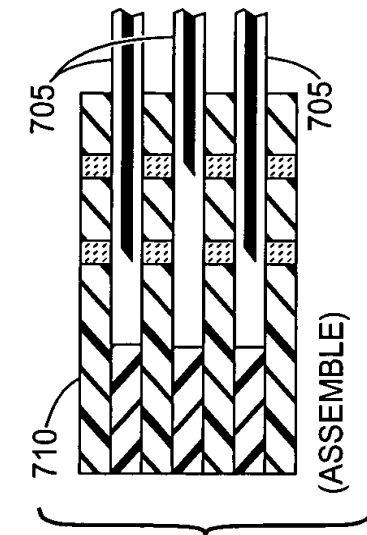


FIG. 73-5

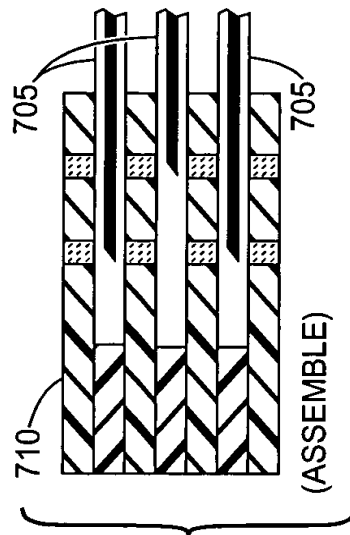
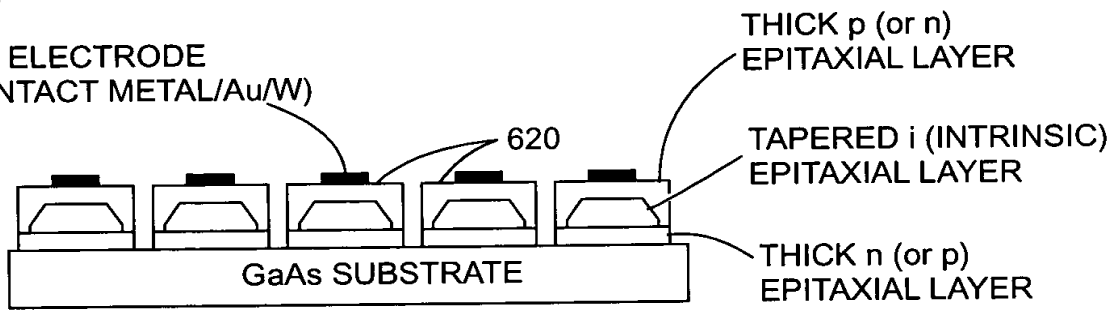


FIG. 73-6

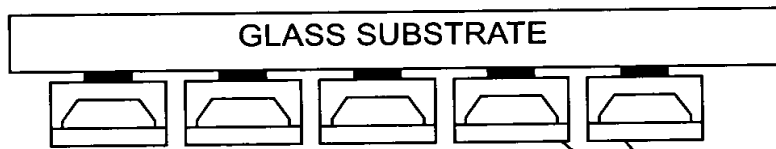


TOP ELECTRODE  
 (CONTACT METAL/Au/W)



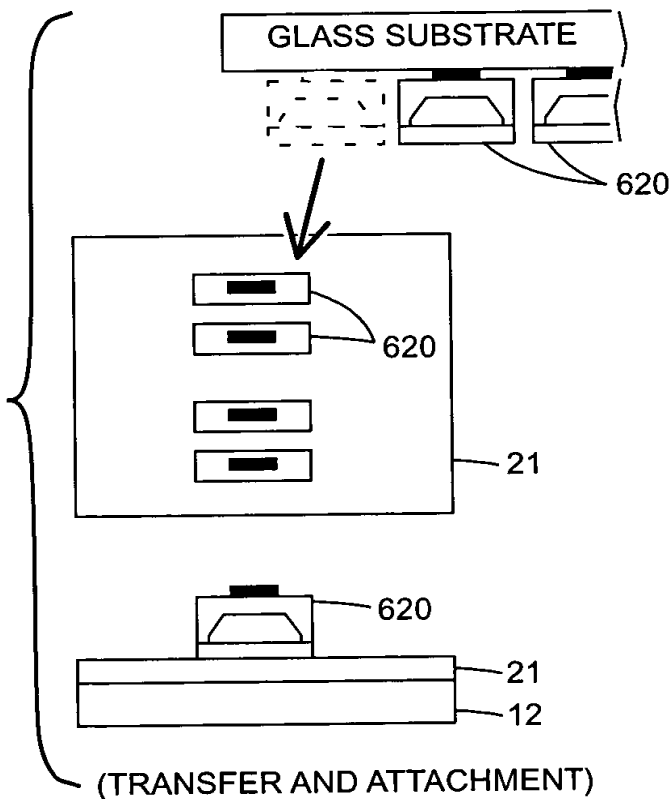
(EPITAXIAL GROWTH AND PATTERNING)

**FIG. 74**



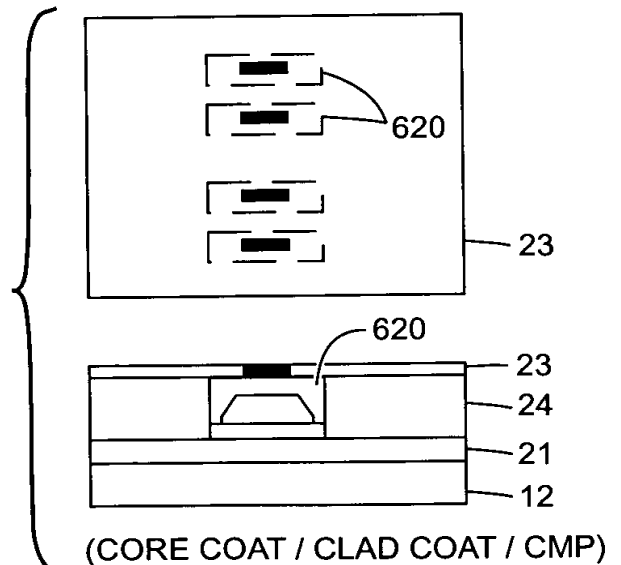
(EPITAXIAL LIFTOFF)

**FIG. 75**



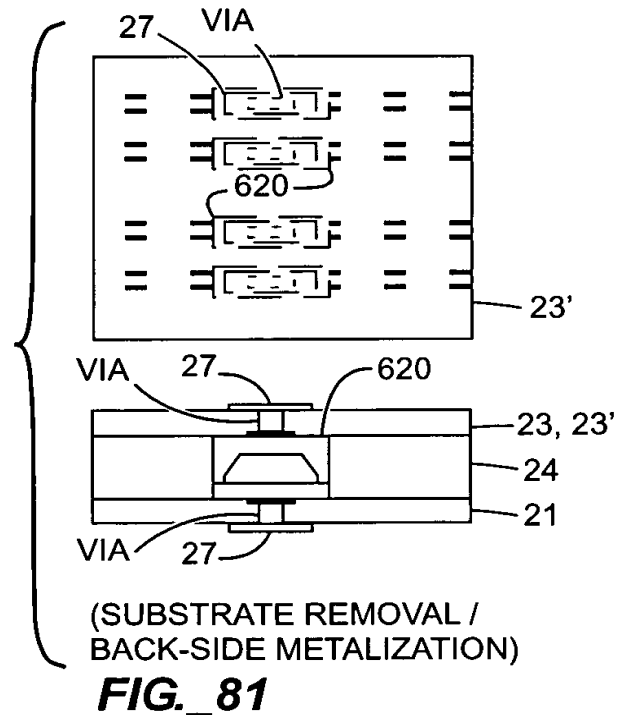
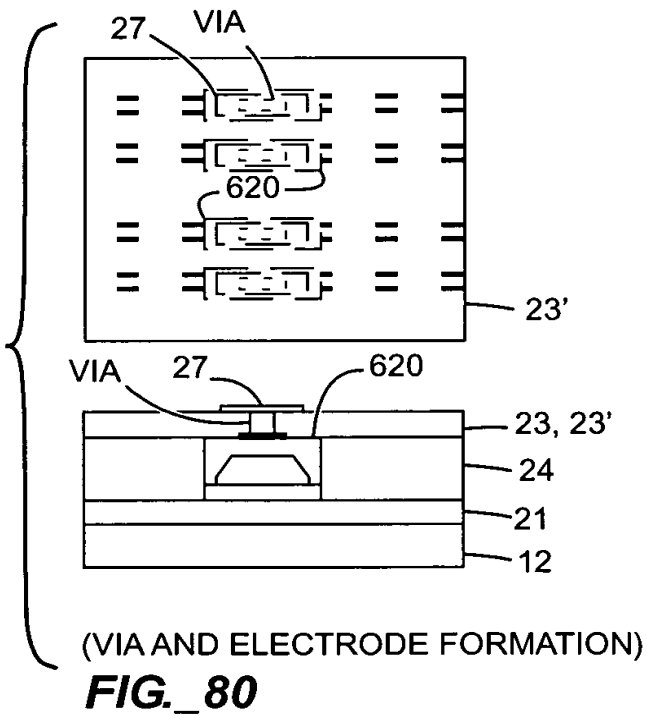
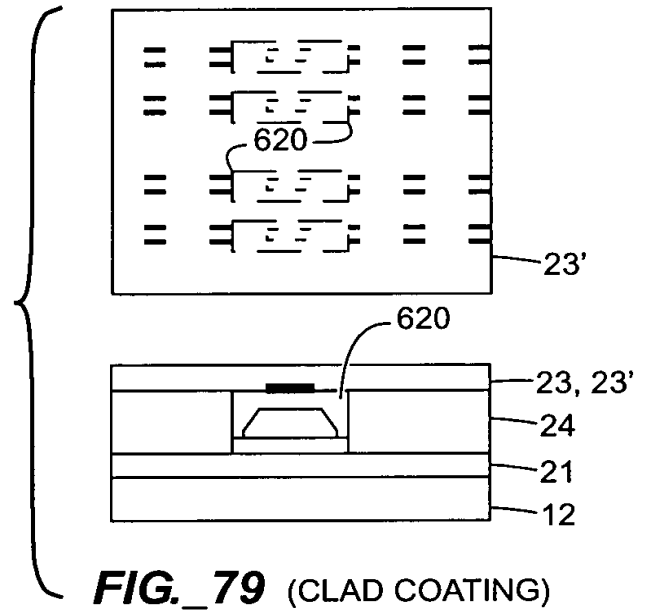
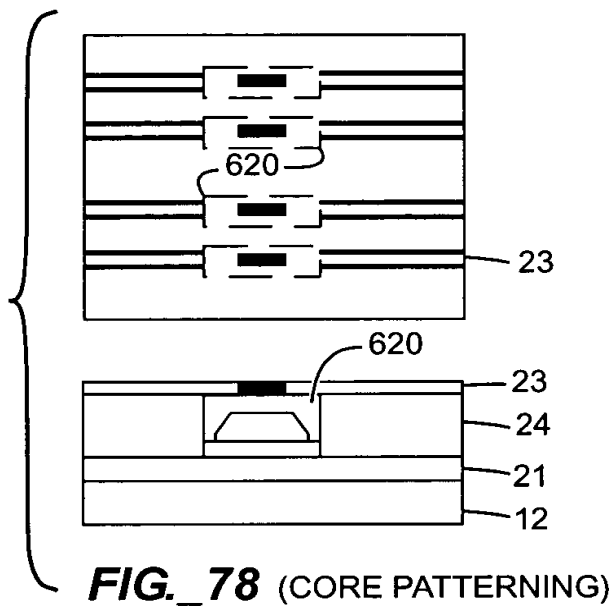
(TRANSFER AND ATTACHMENT)

**FIG. 76**



(CORE COAT / CLAD COAT / CMP)

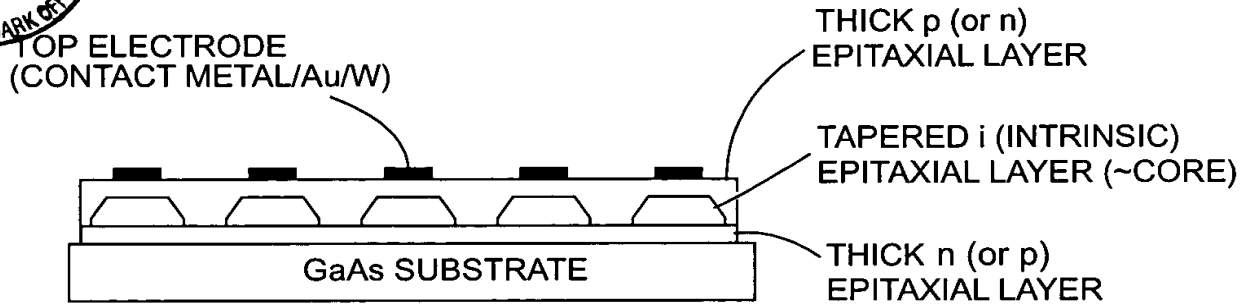
**FIG. 77**



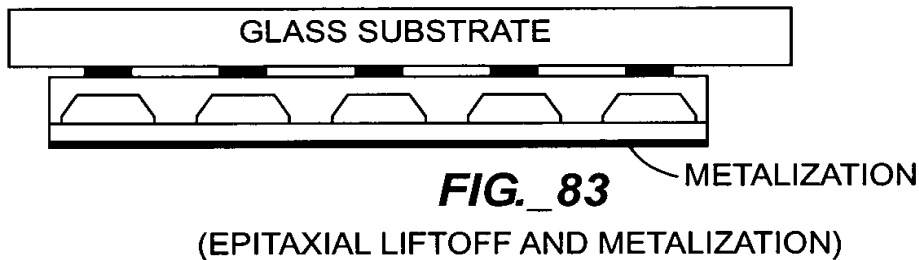




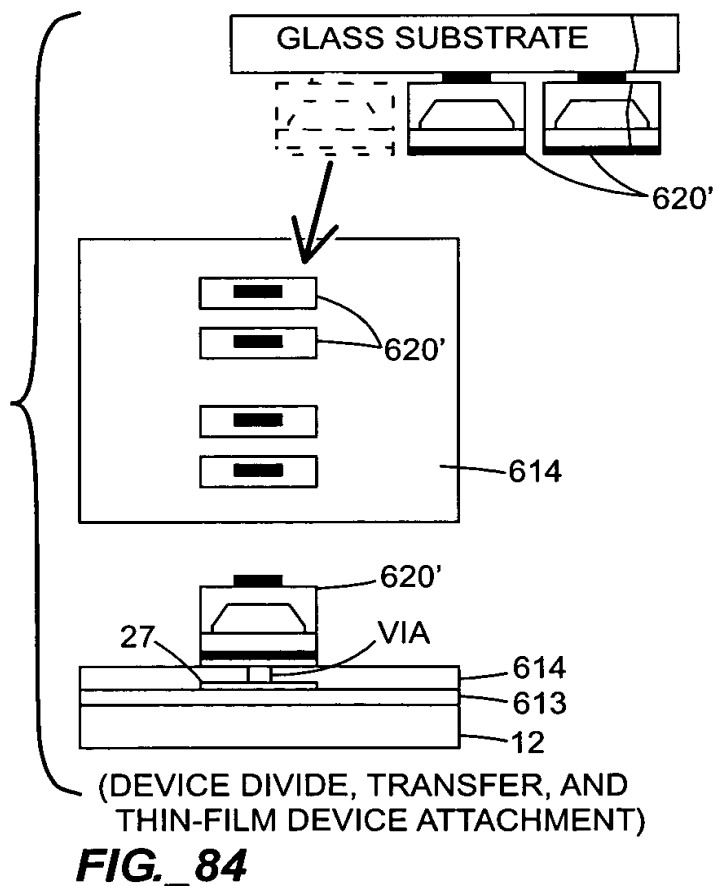
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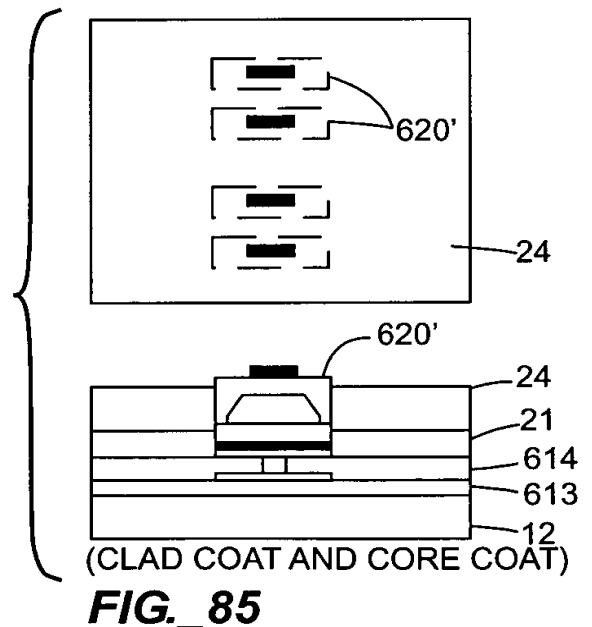
**FIG. 82**  
(EPITAXIAL GROWTH)



**FIG. 83**  
(EPITAXIAL LIFTOFF AND METALIZATION)



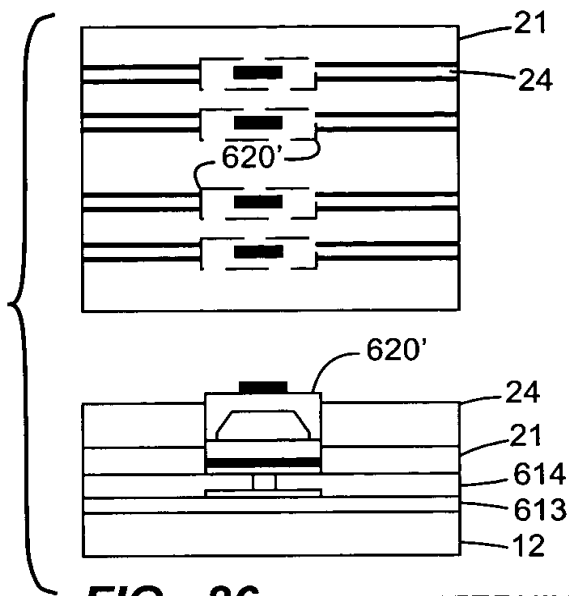
**FIG. 84**



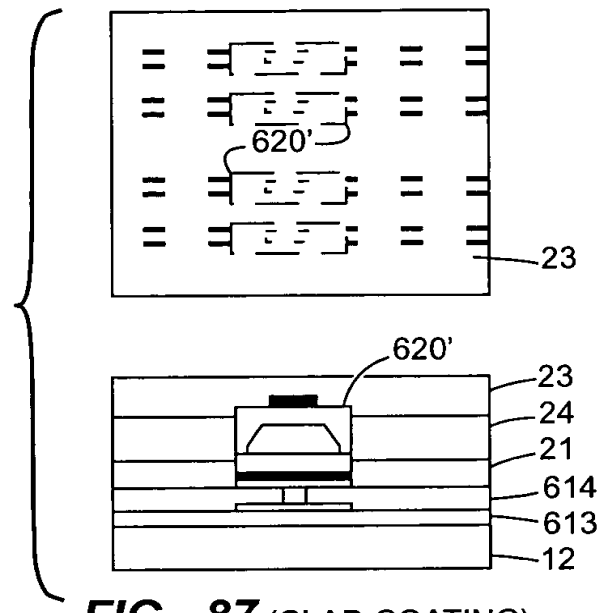
**FIG. 85**



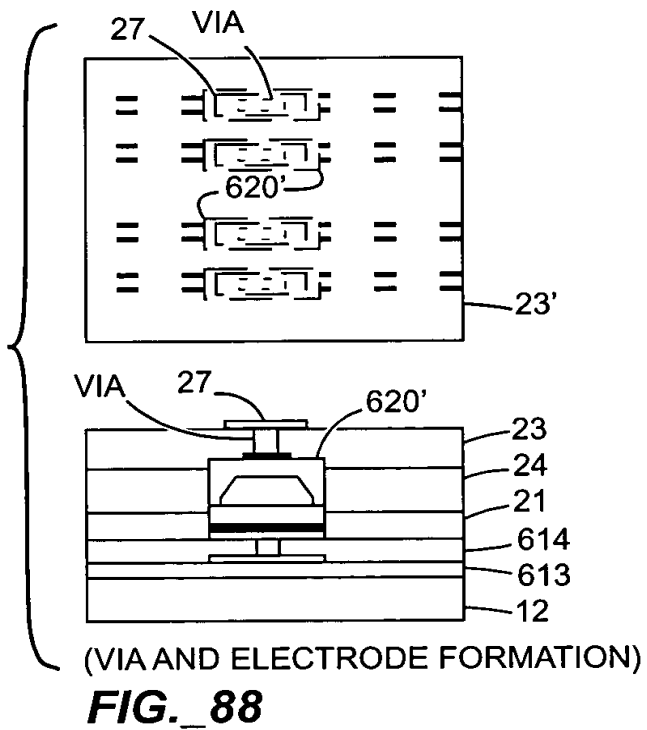
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**FIG. 86** (CORE PATTERNING)

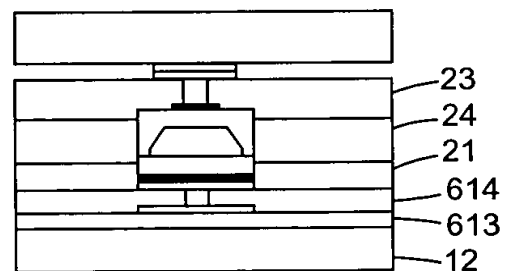


**FIG. 87** (CLAD COATING)

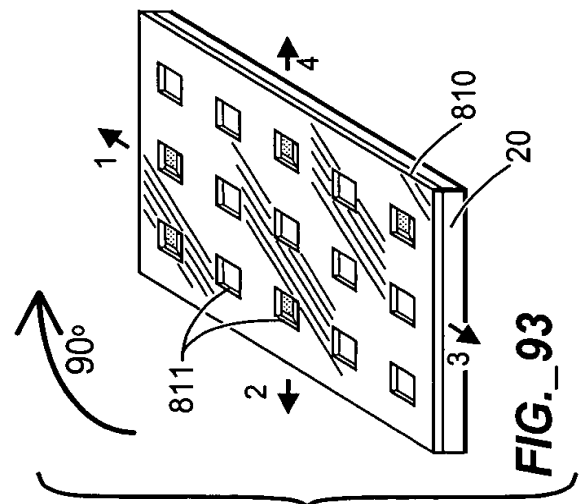
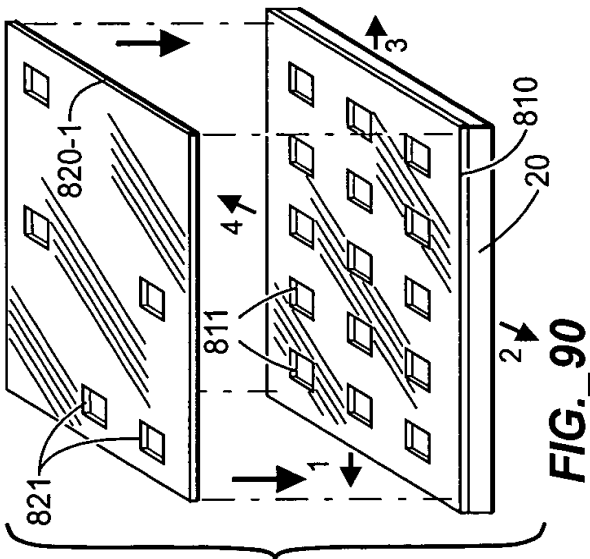
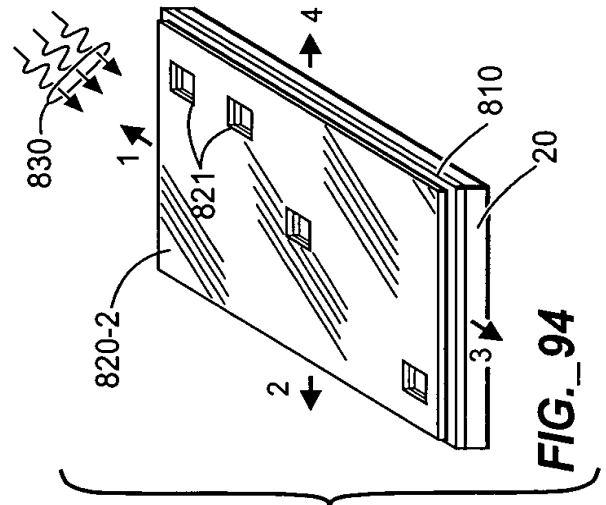
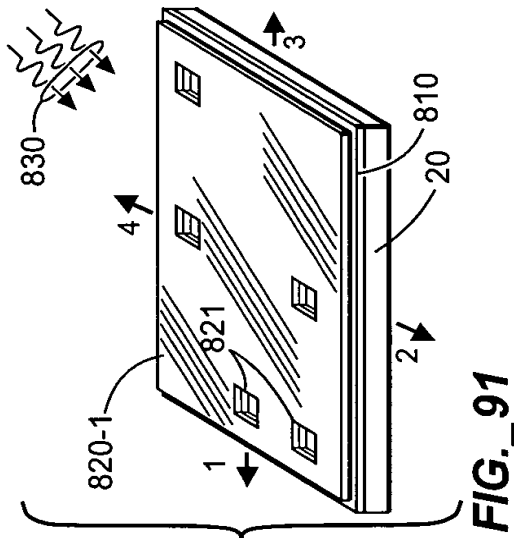
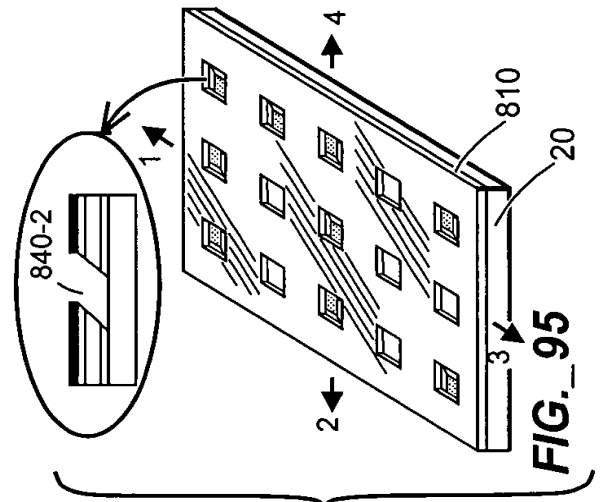
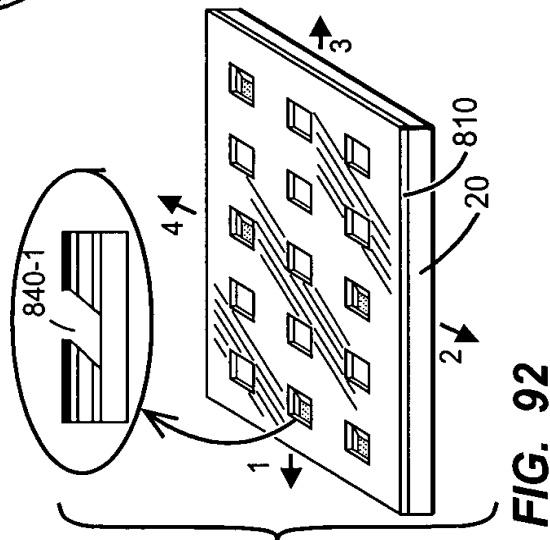


(VIA AND ELECTRODE FORMATION)

**FIG. 88**



**FIG. 89**



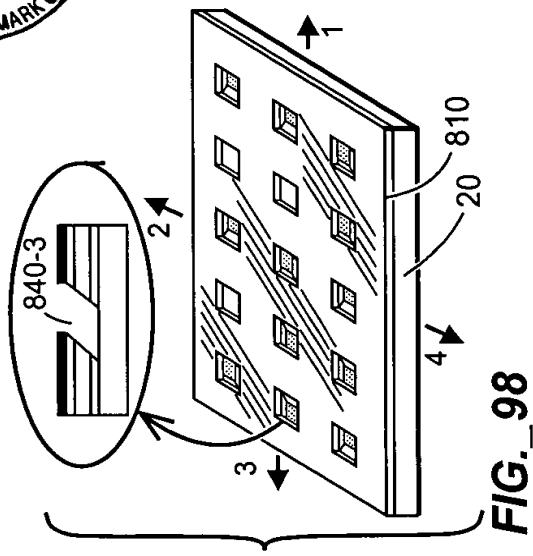


FIG. 96

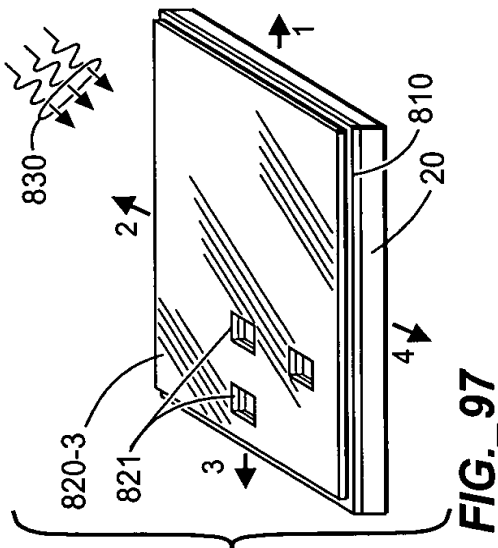


FIG. 97

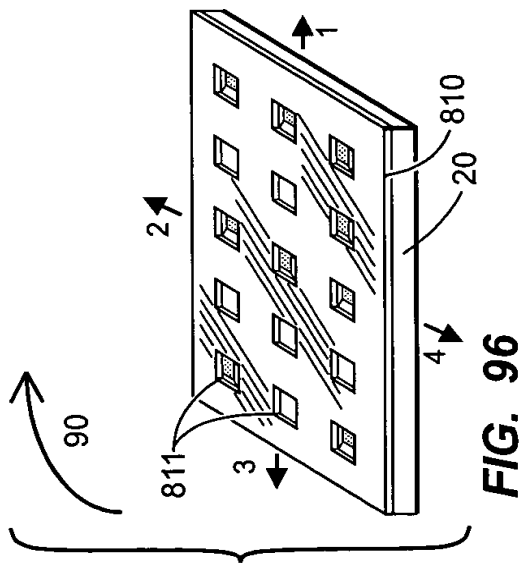


FIG. 98

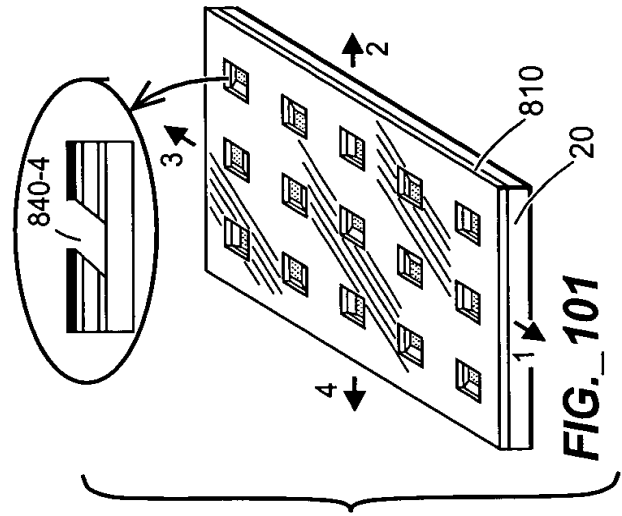


FIG. 99

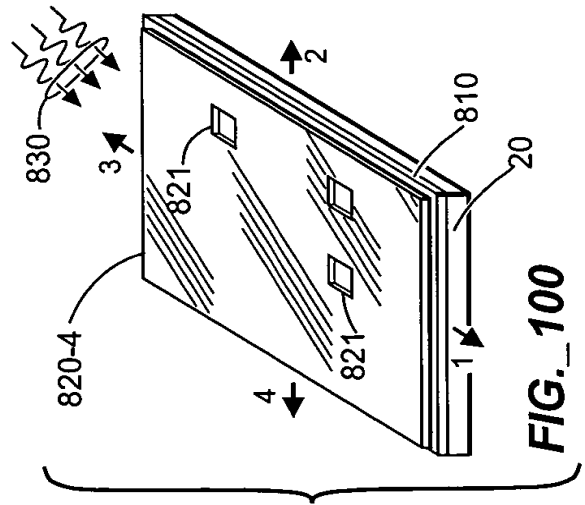


FIG. 100

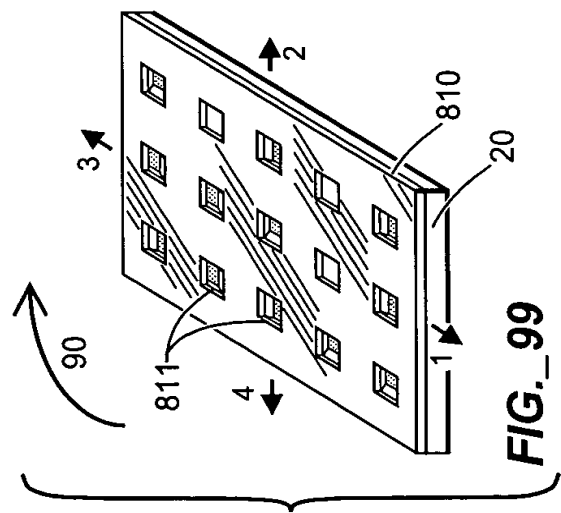
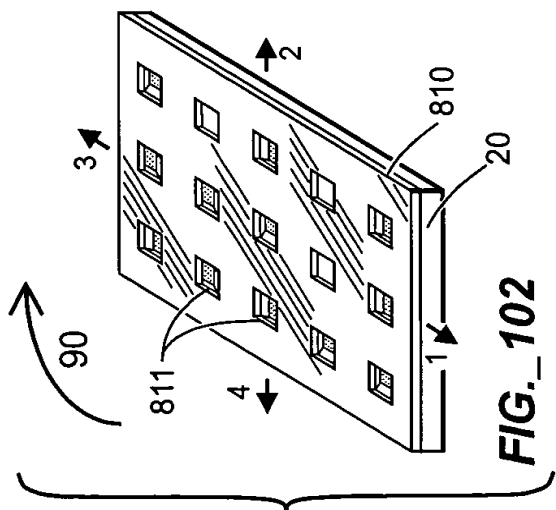
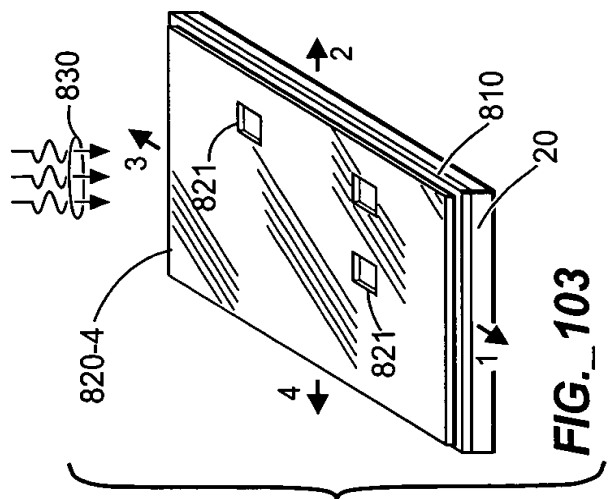
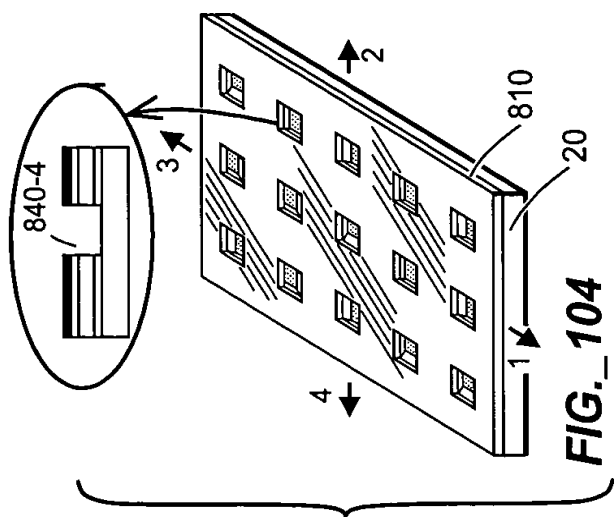
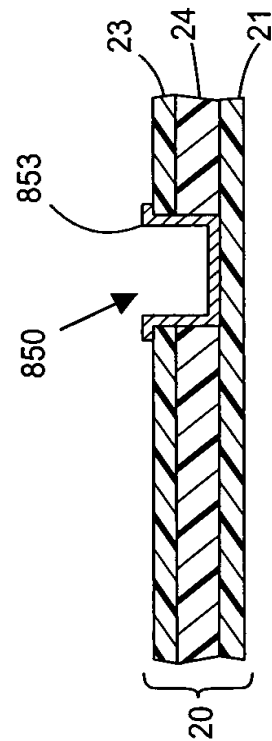
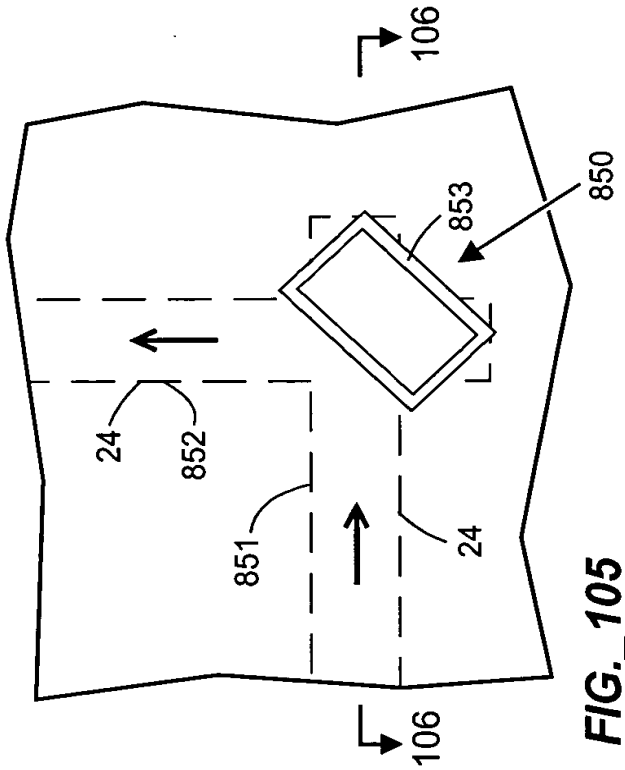
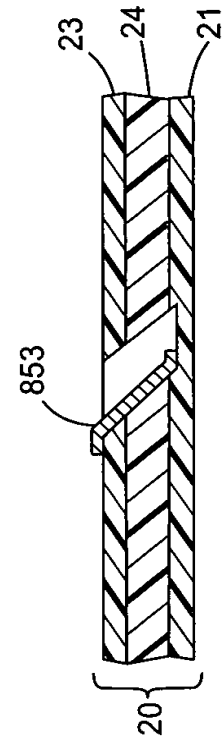
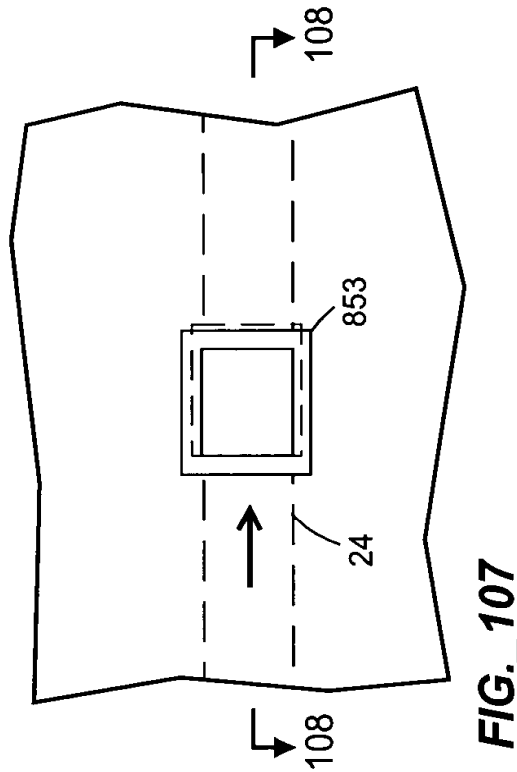


FIG. 101



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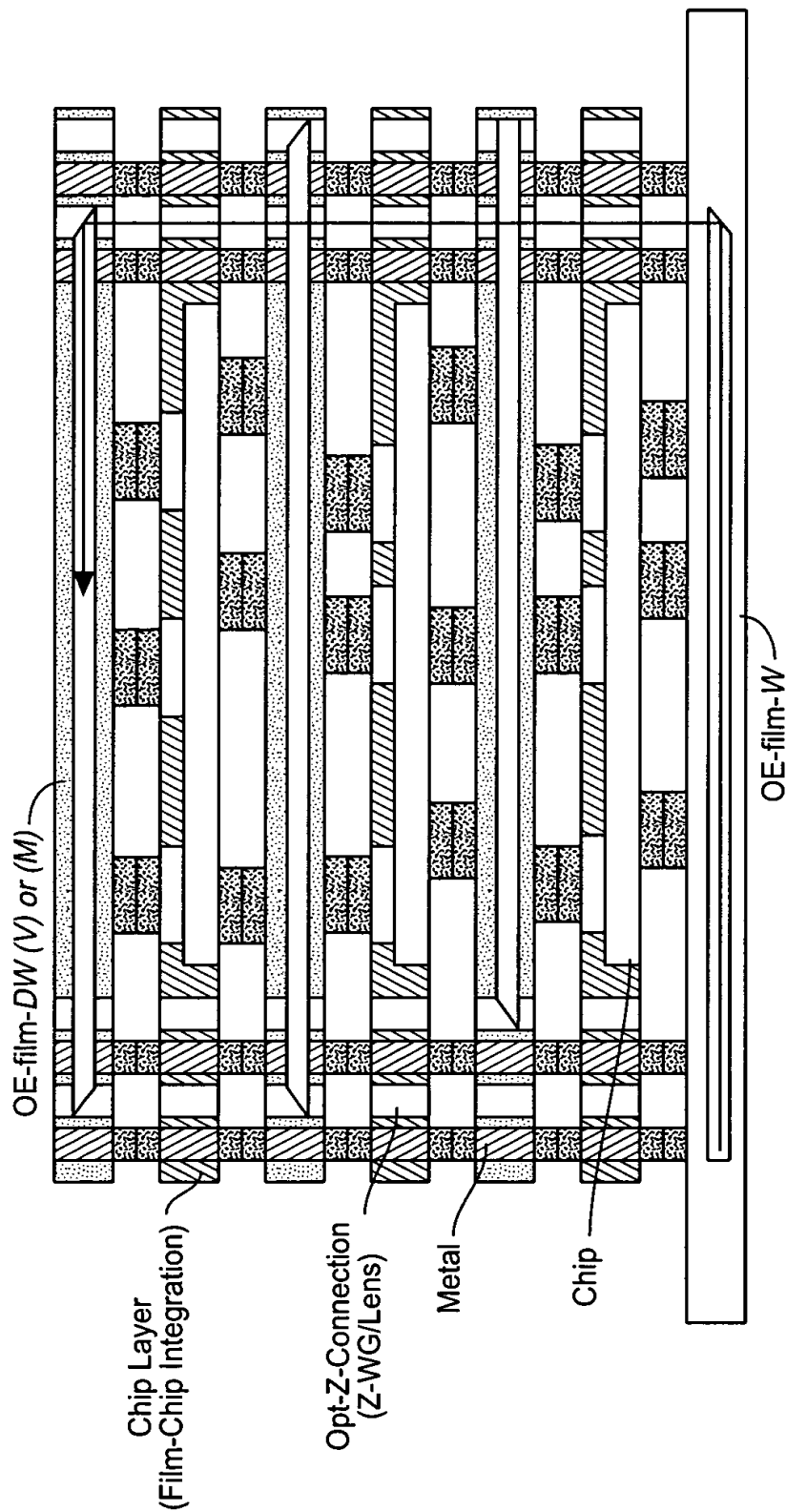
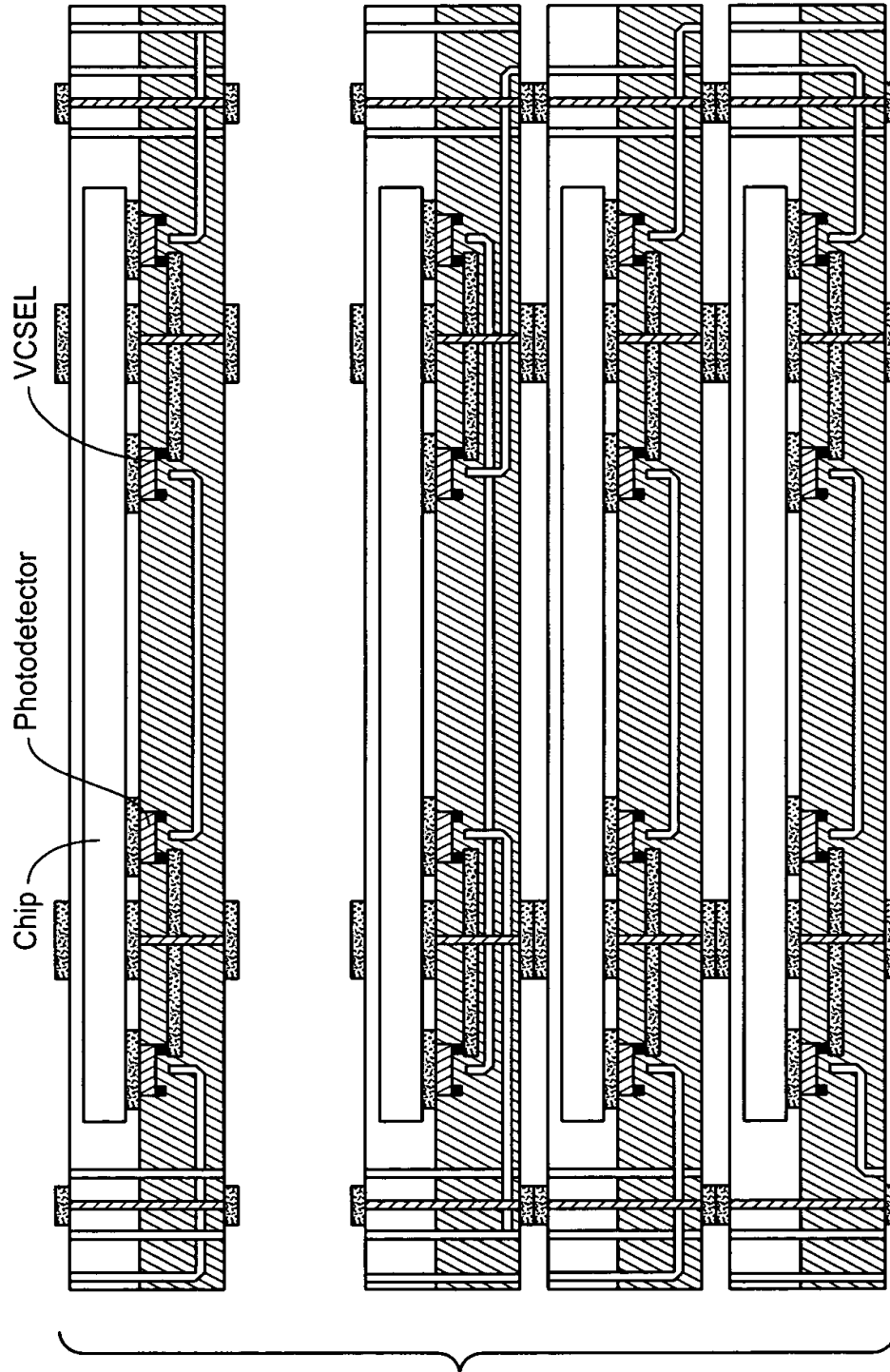


FIG. 109





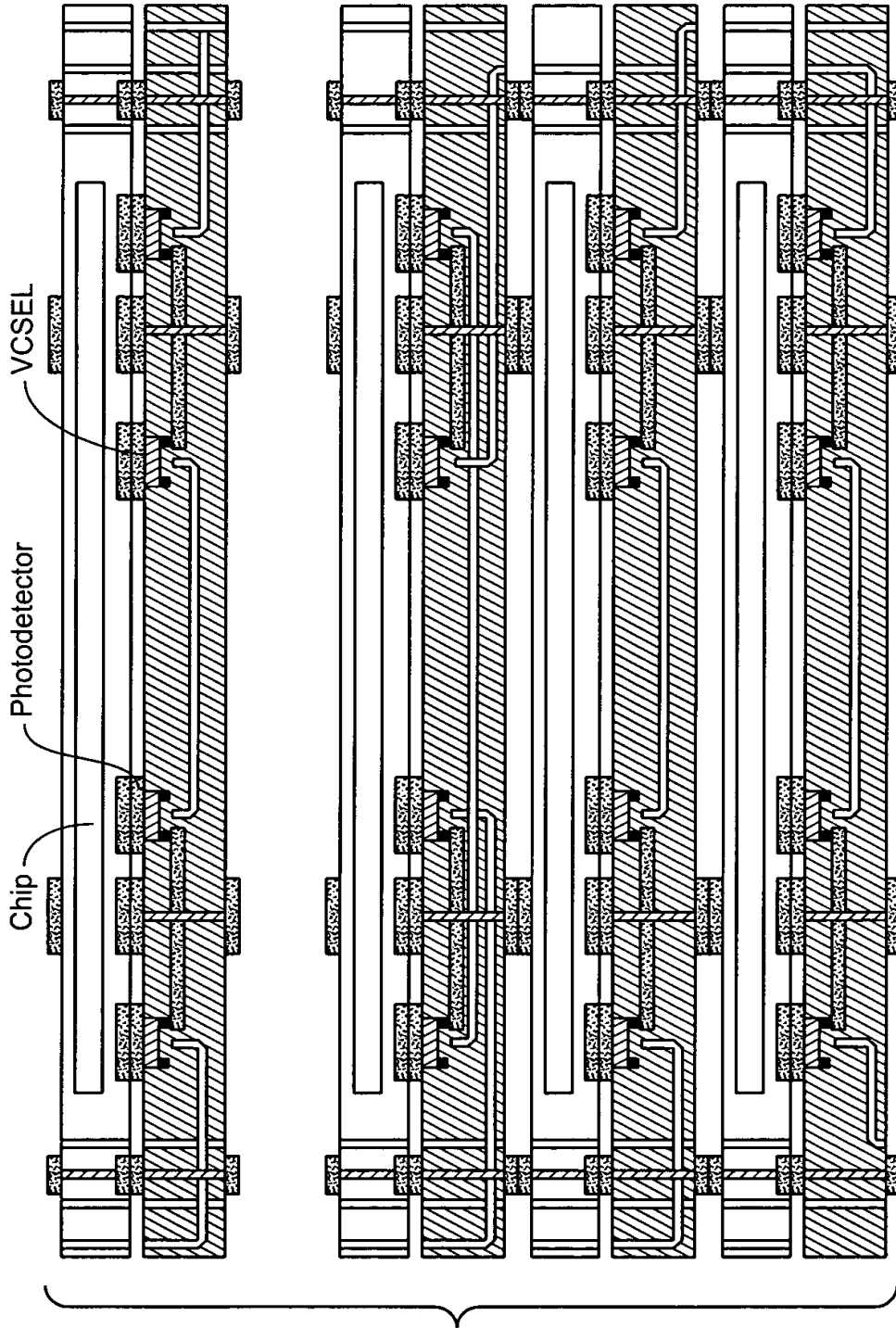
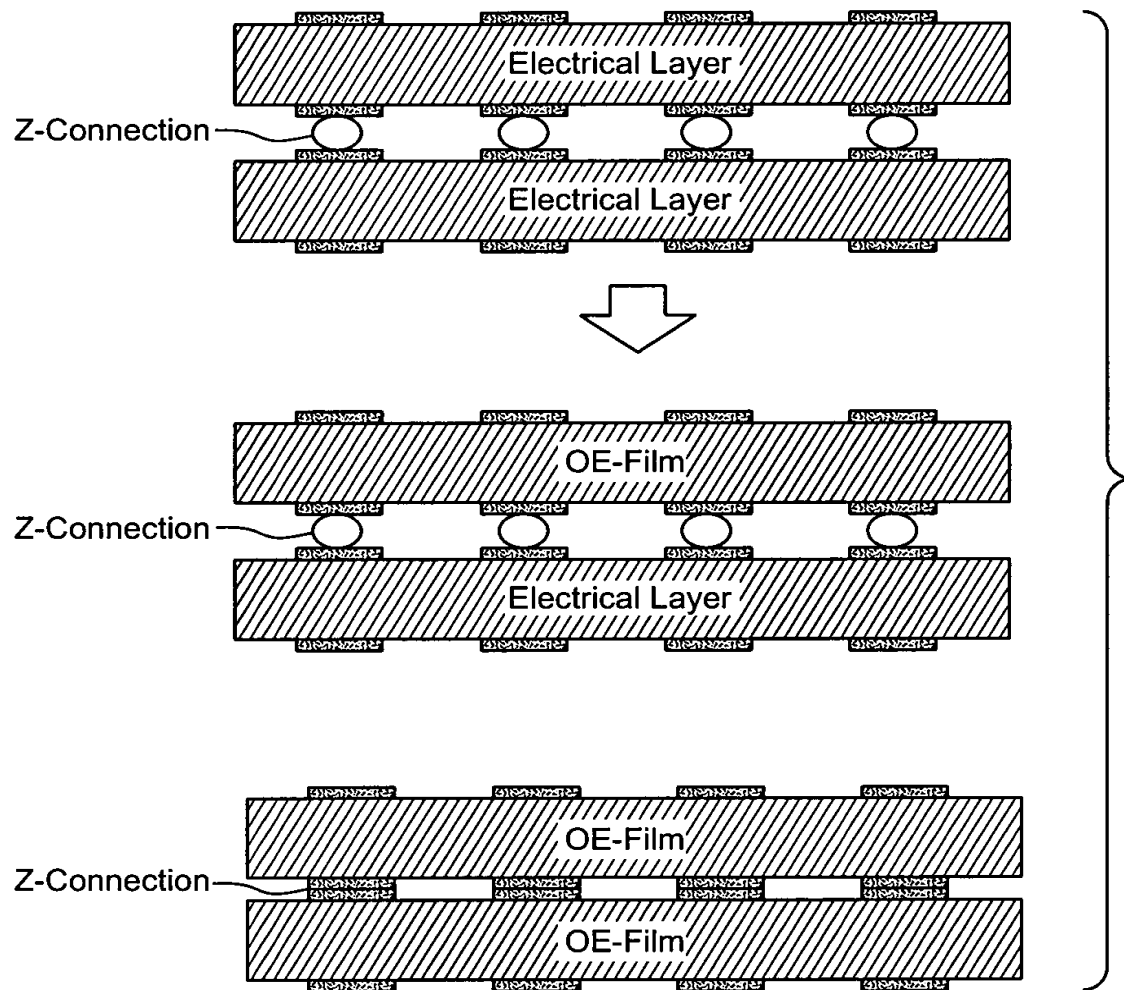
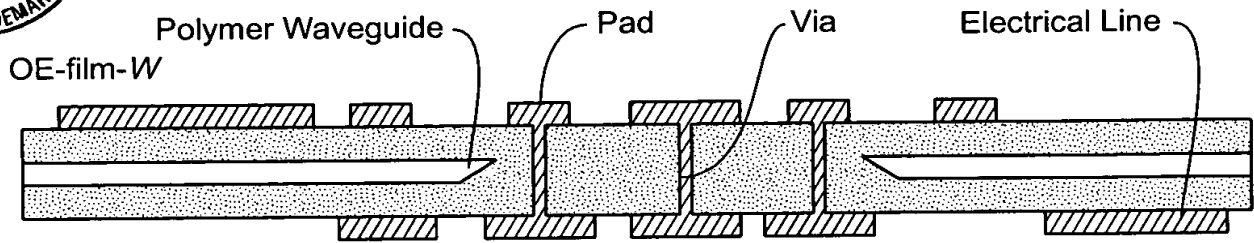
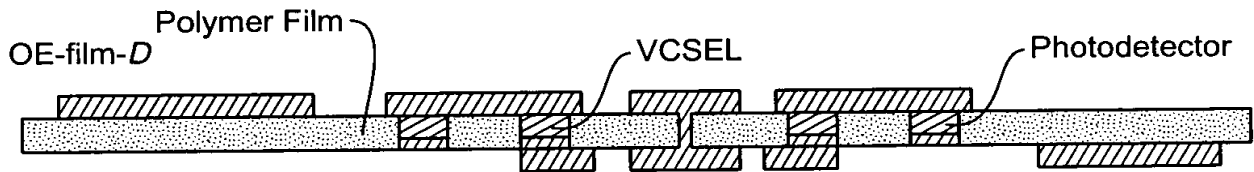
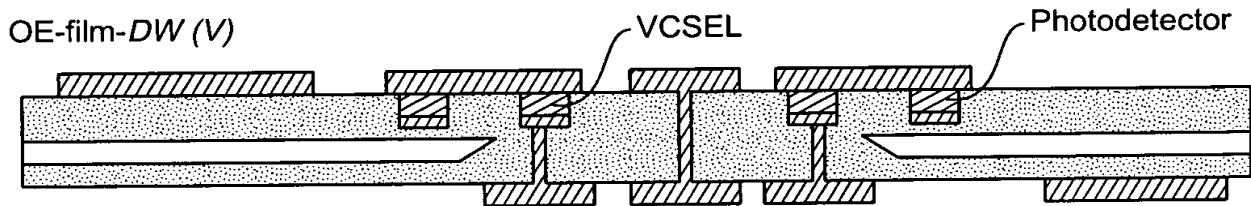
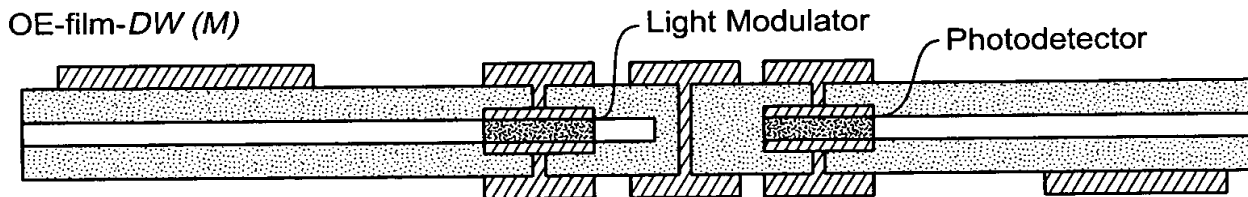


FIG.\_111



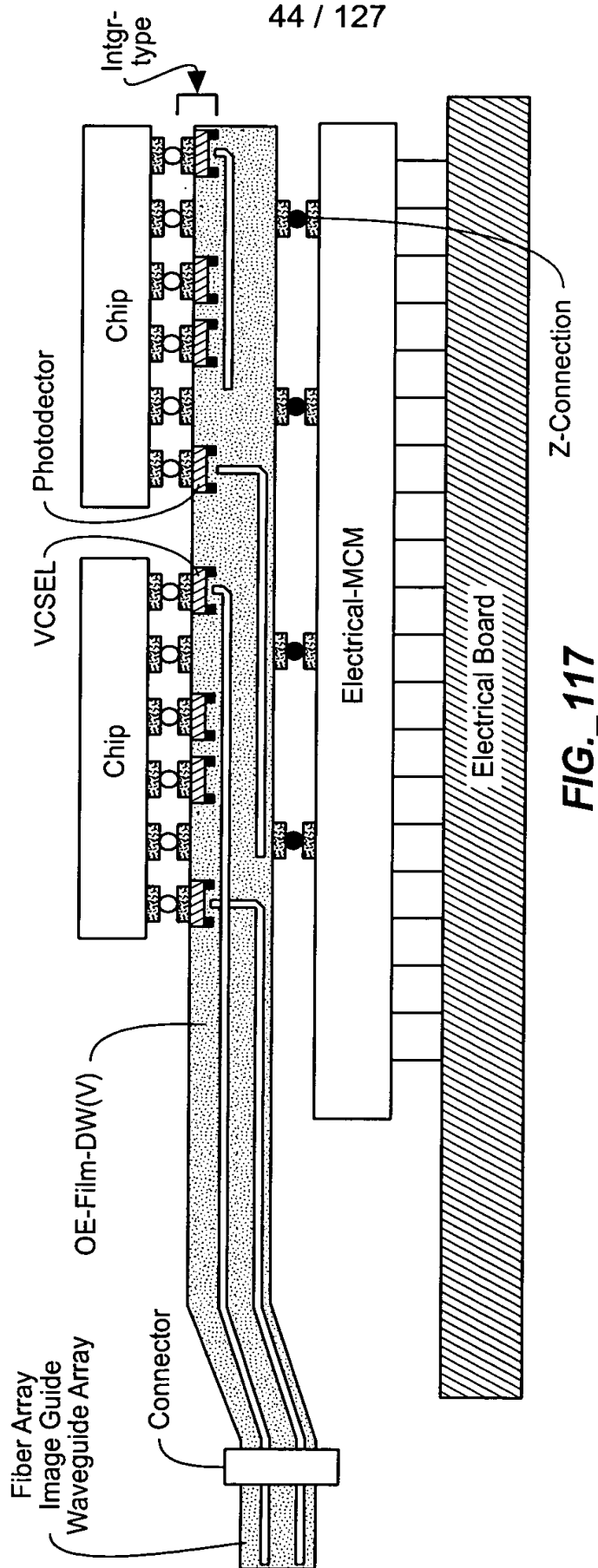
**FIG. 112**

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**FIG. 113****FIG. 114****FIG. 115****FIG. 116**

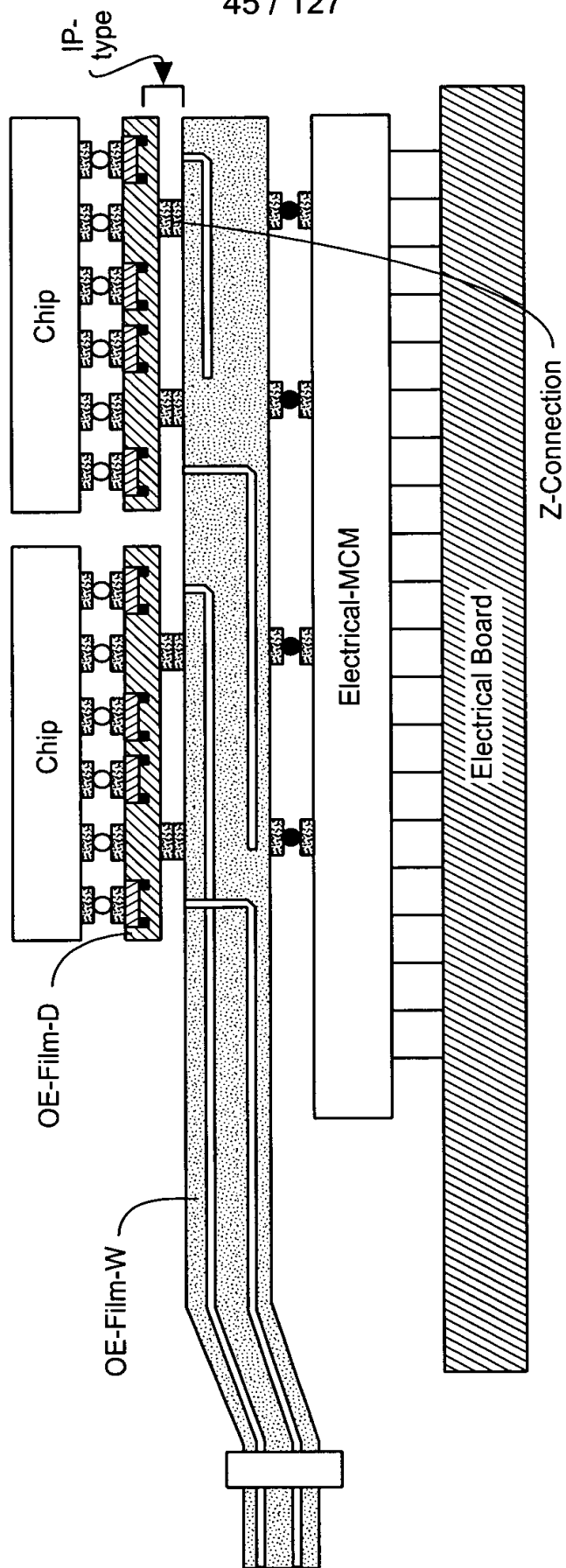


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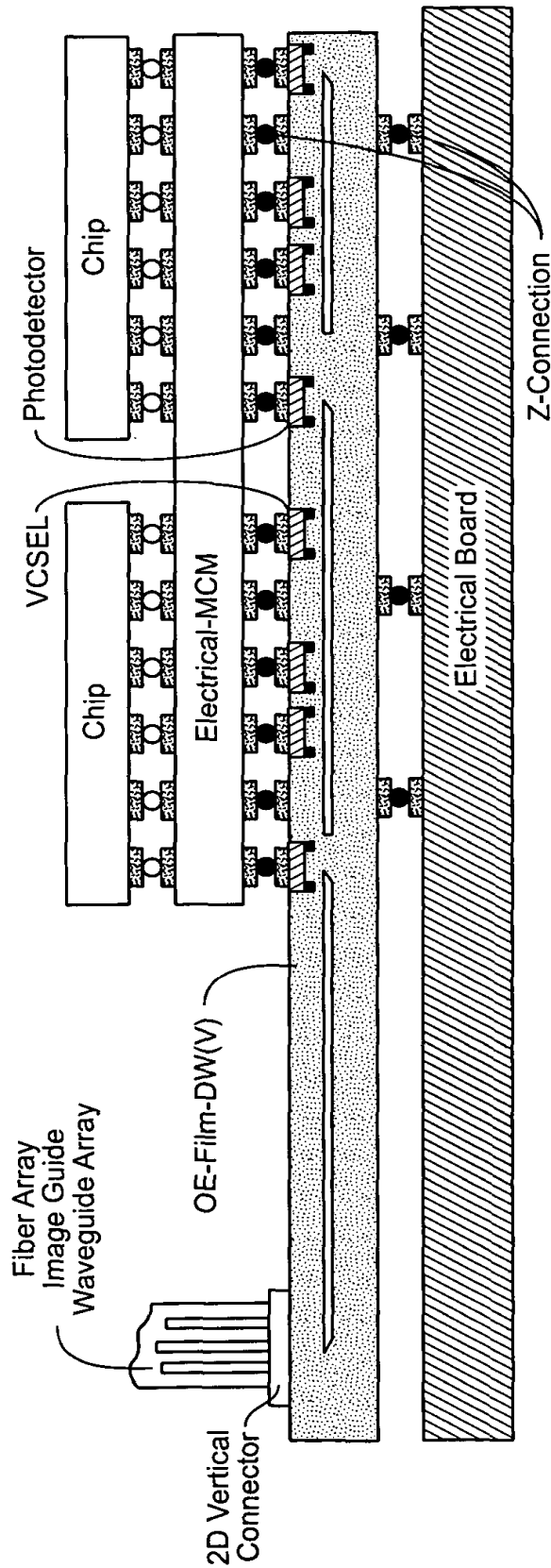




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**FIG. 118**



**FIG. 119**

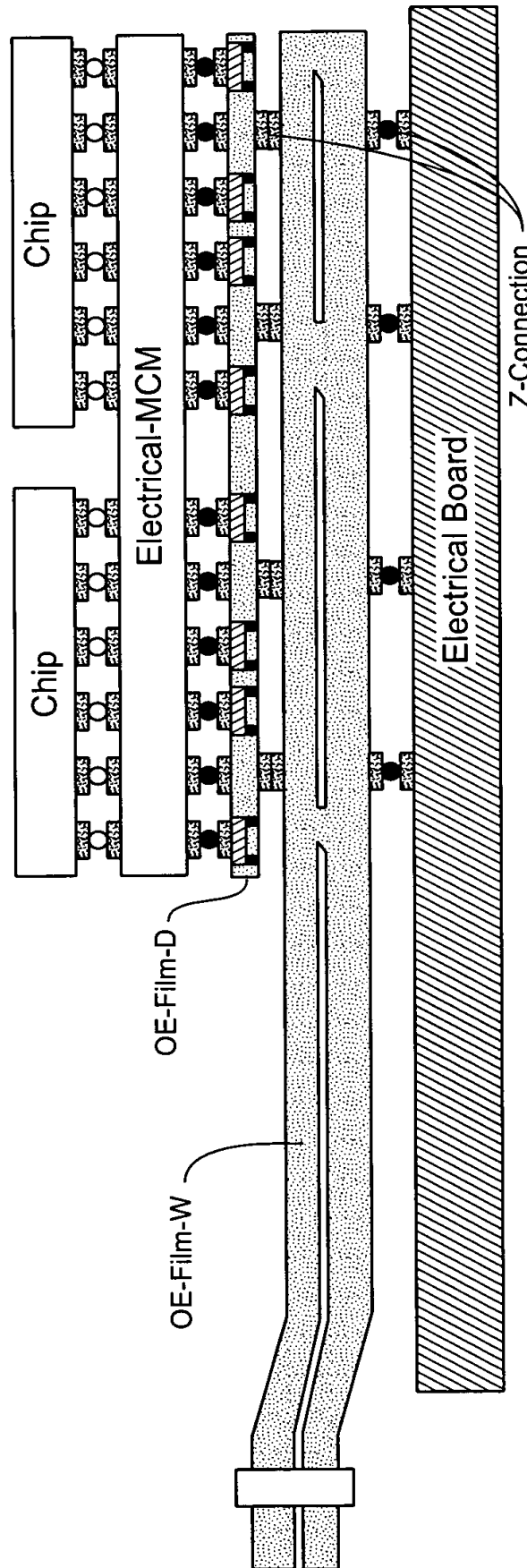
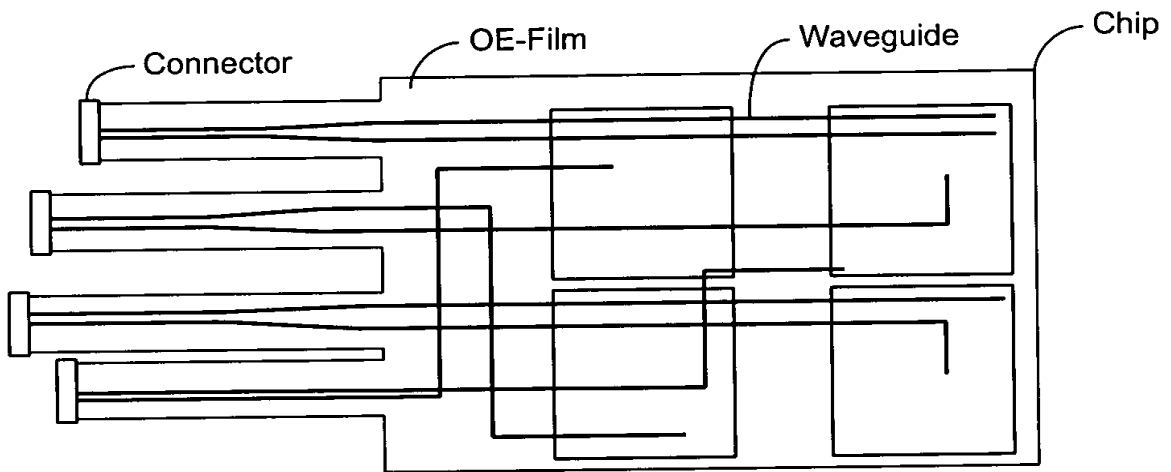
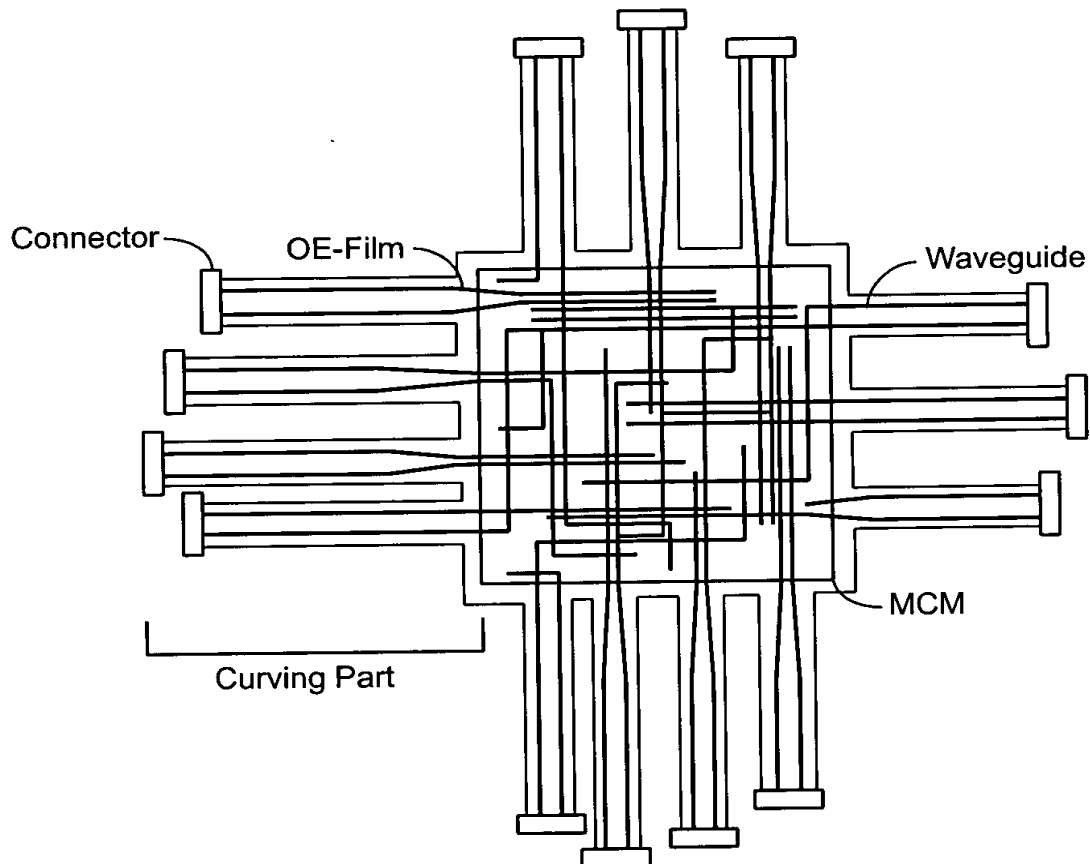


FIG.\_120



**FIG.\_121**



**FIG. 122**





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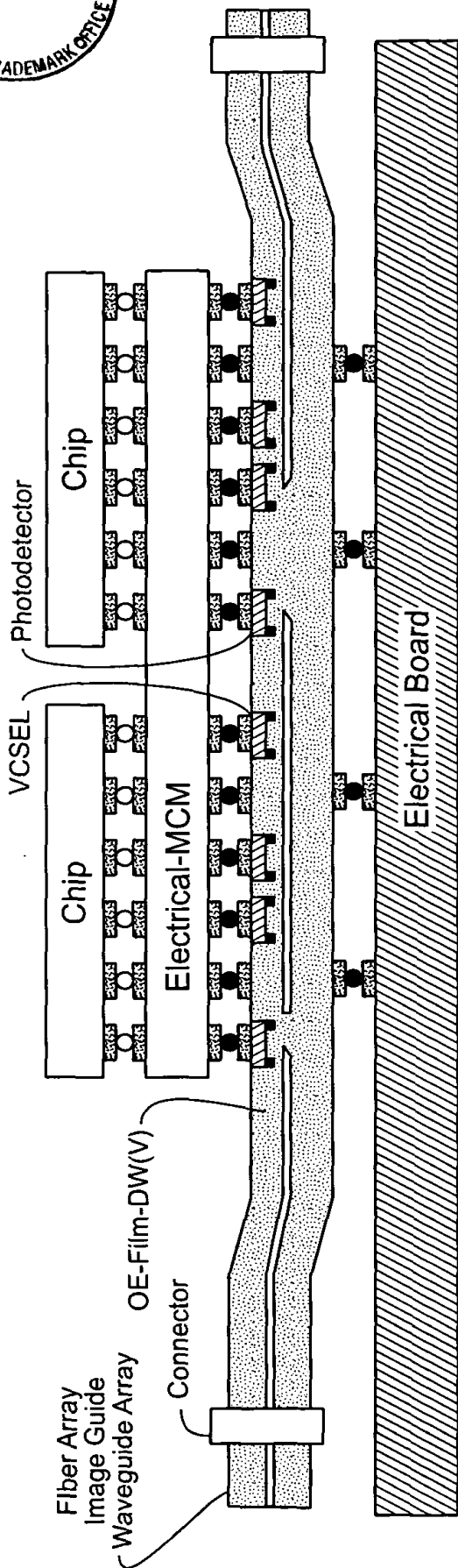


FIG. 123

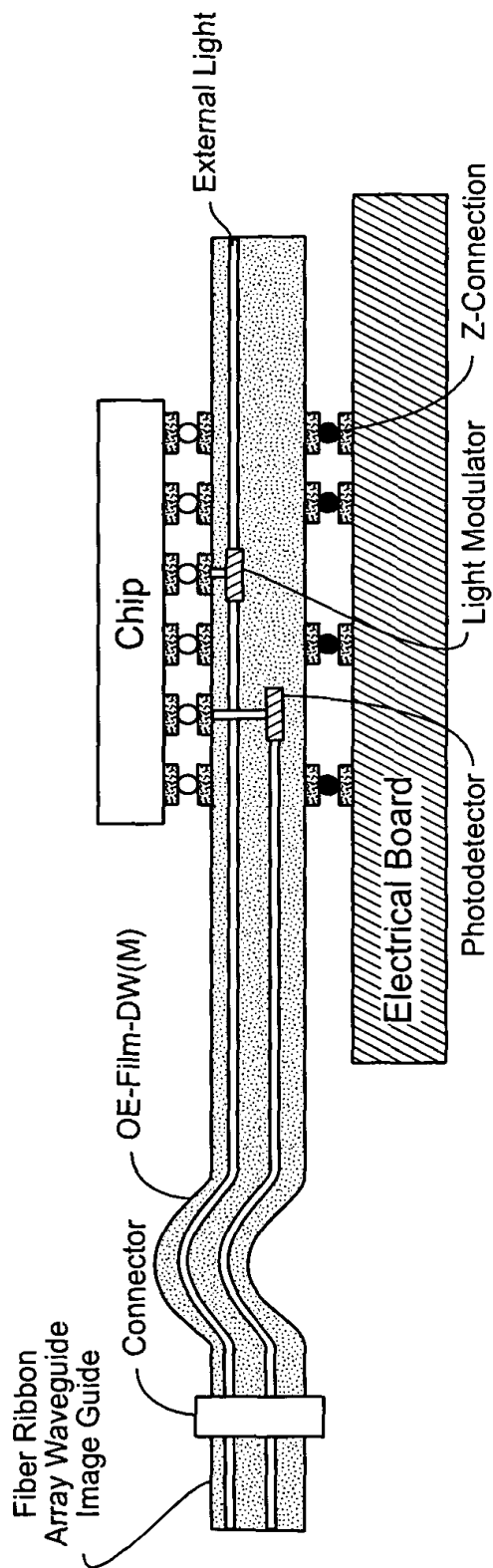
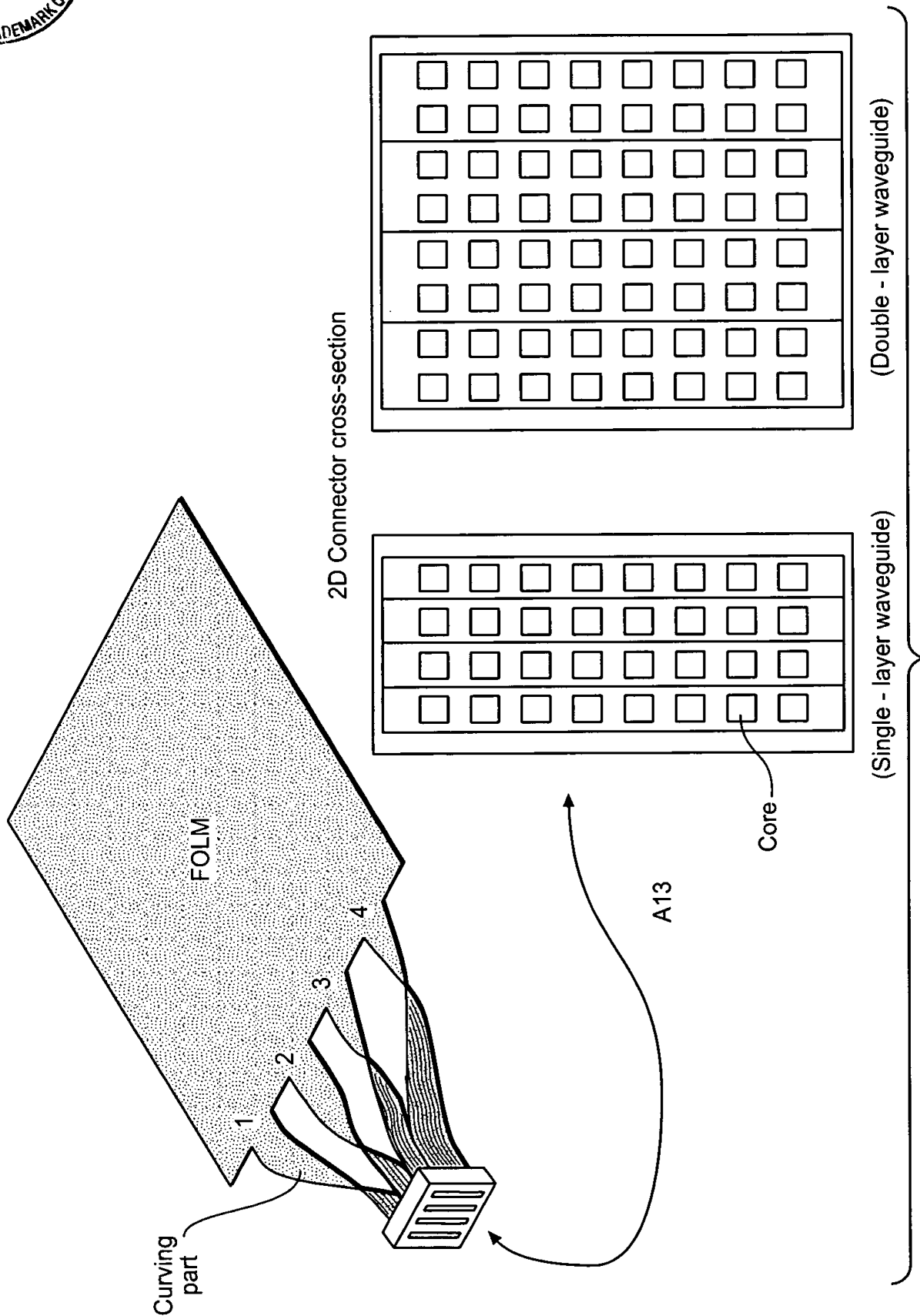


FIG. 125





Through Put: 1.5 pbs x 196 ch

Assume SSX MCM Size is ~ 5cm x 5cm

Unit: UN

FIG. 126

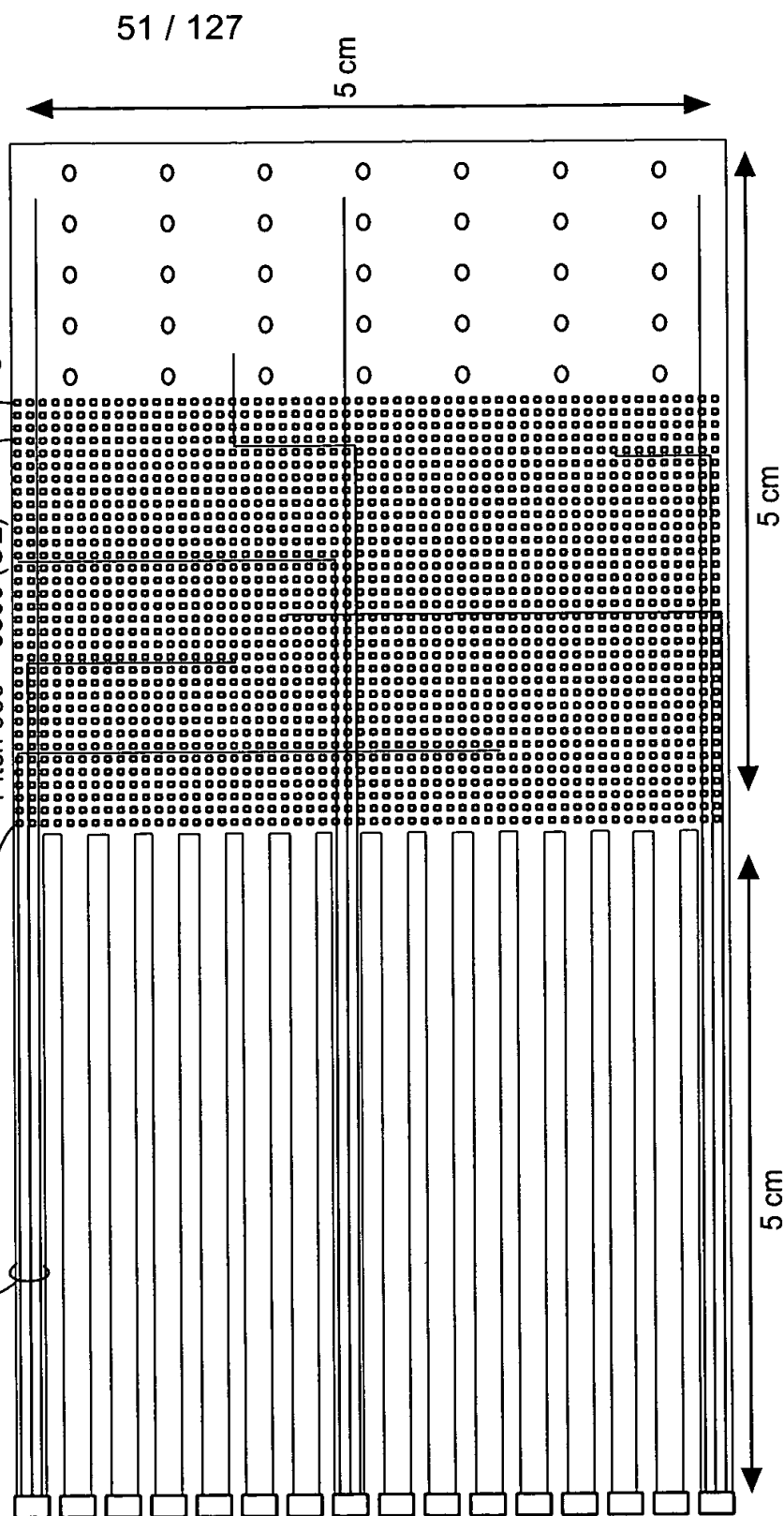
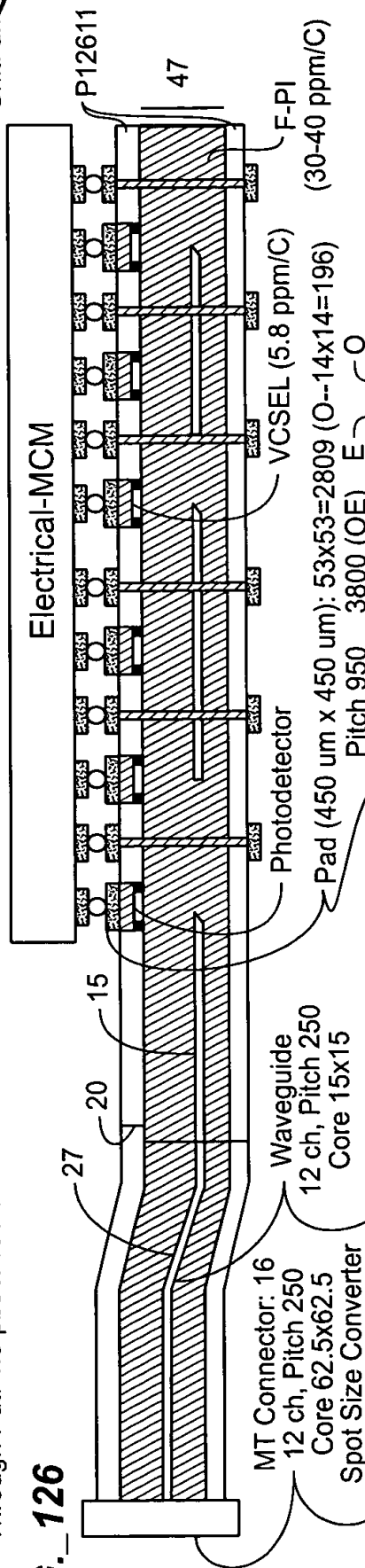


FIG. 127

Unit : um

**FIG. 128**

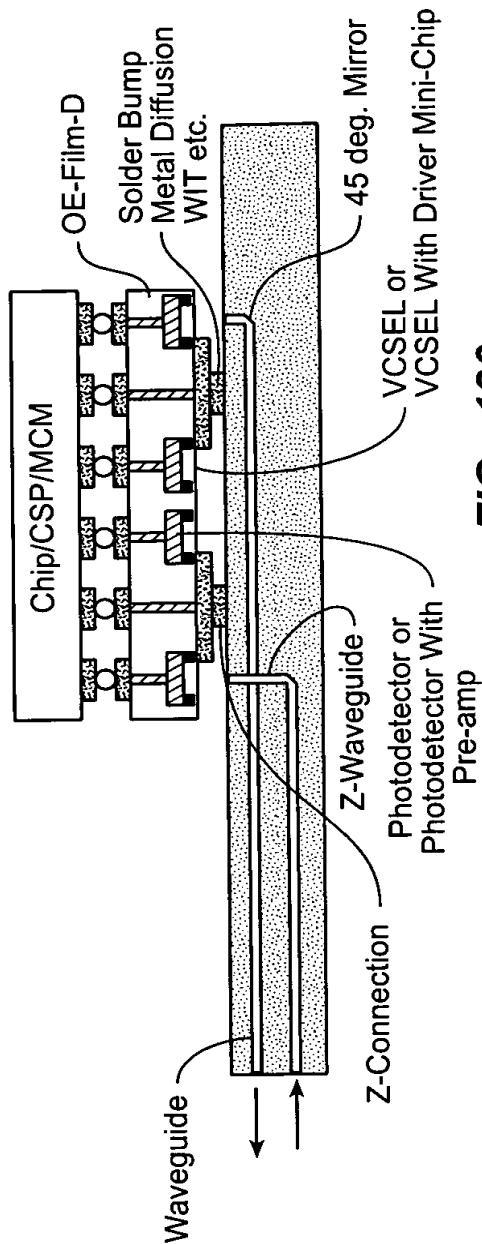


FIG. 130

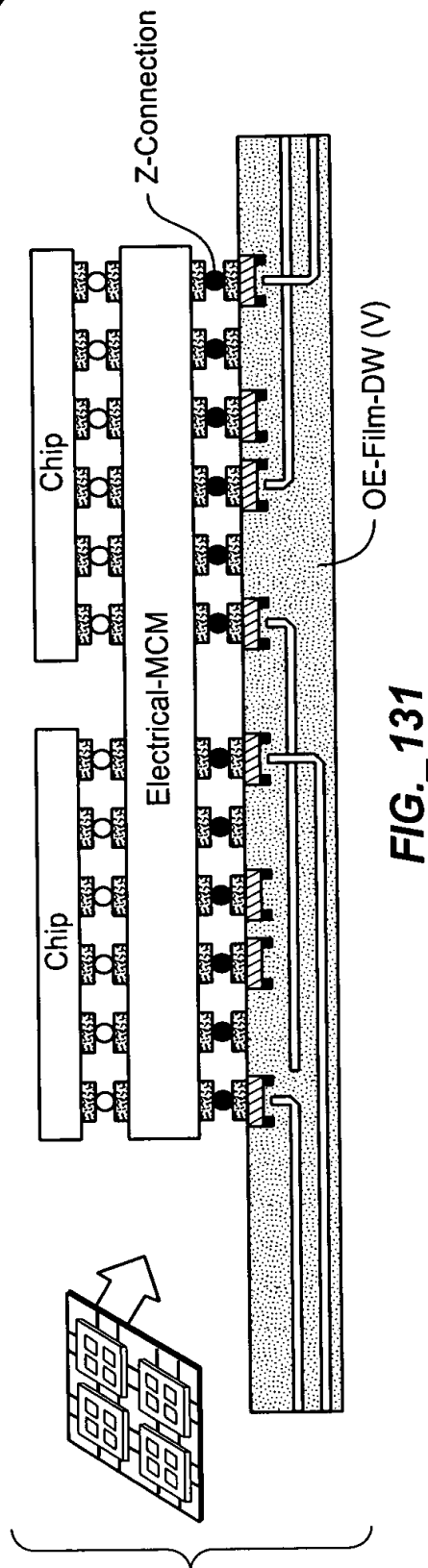


FIG. 131



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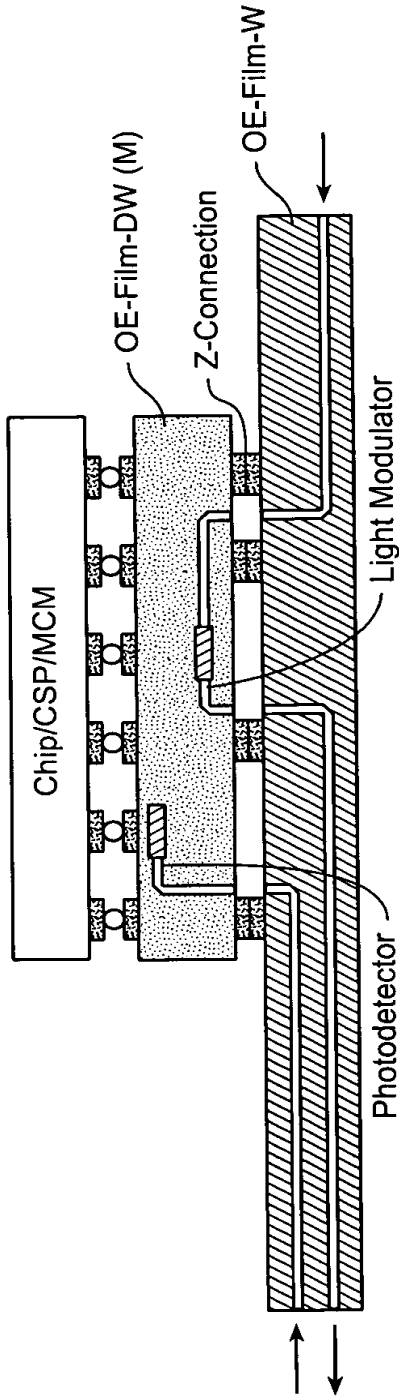


FIG.\_132

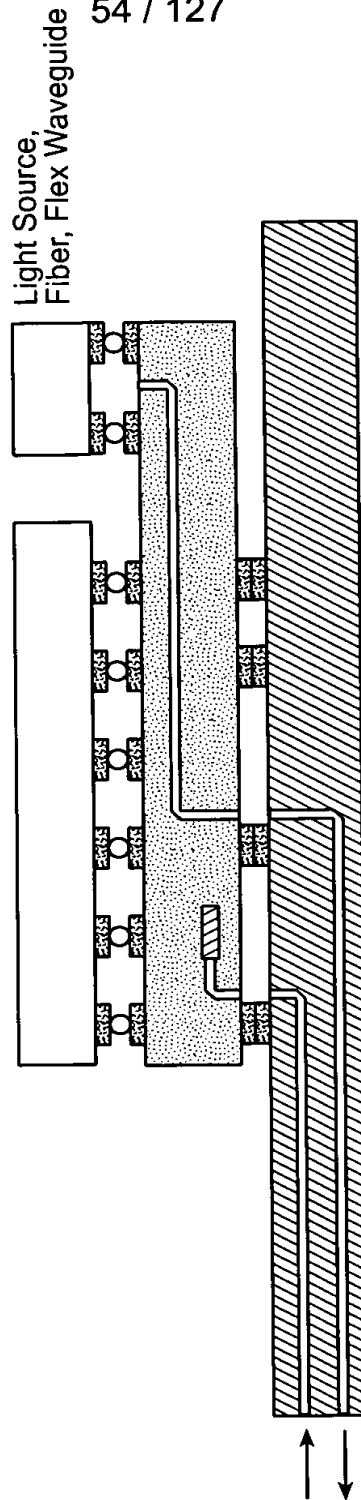


FIG.\_133

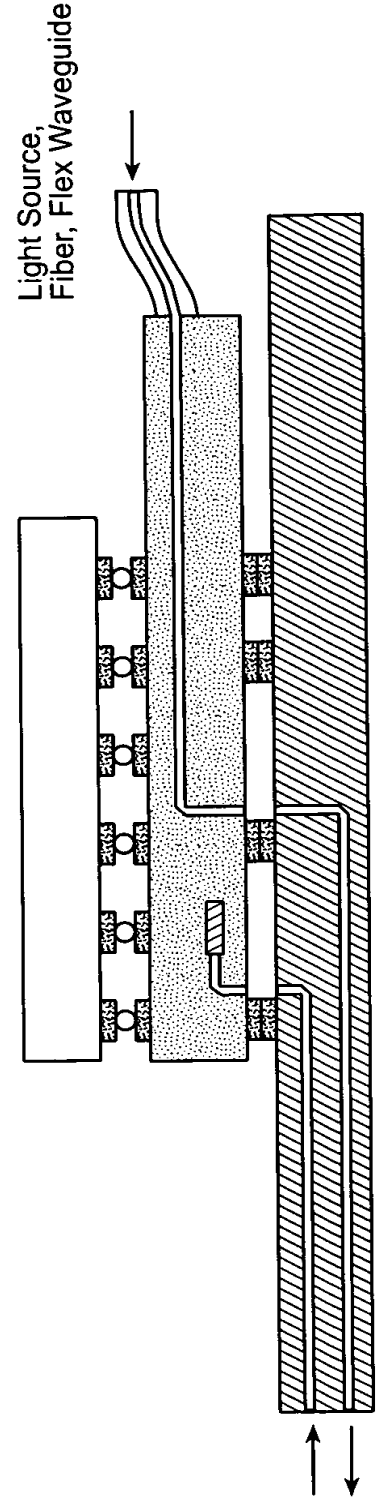
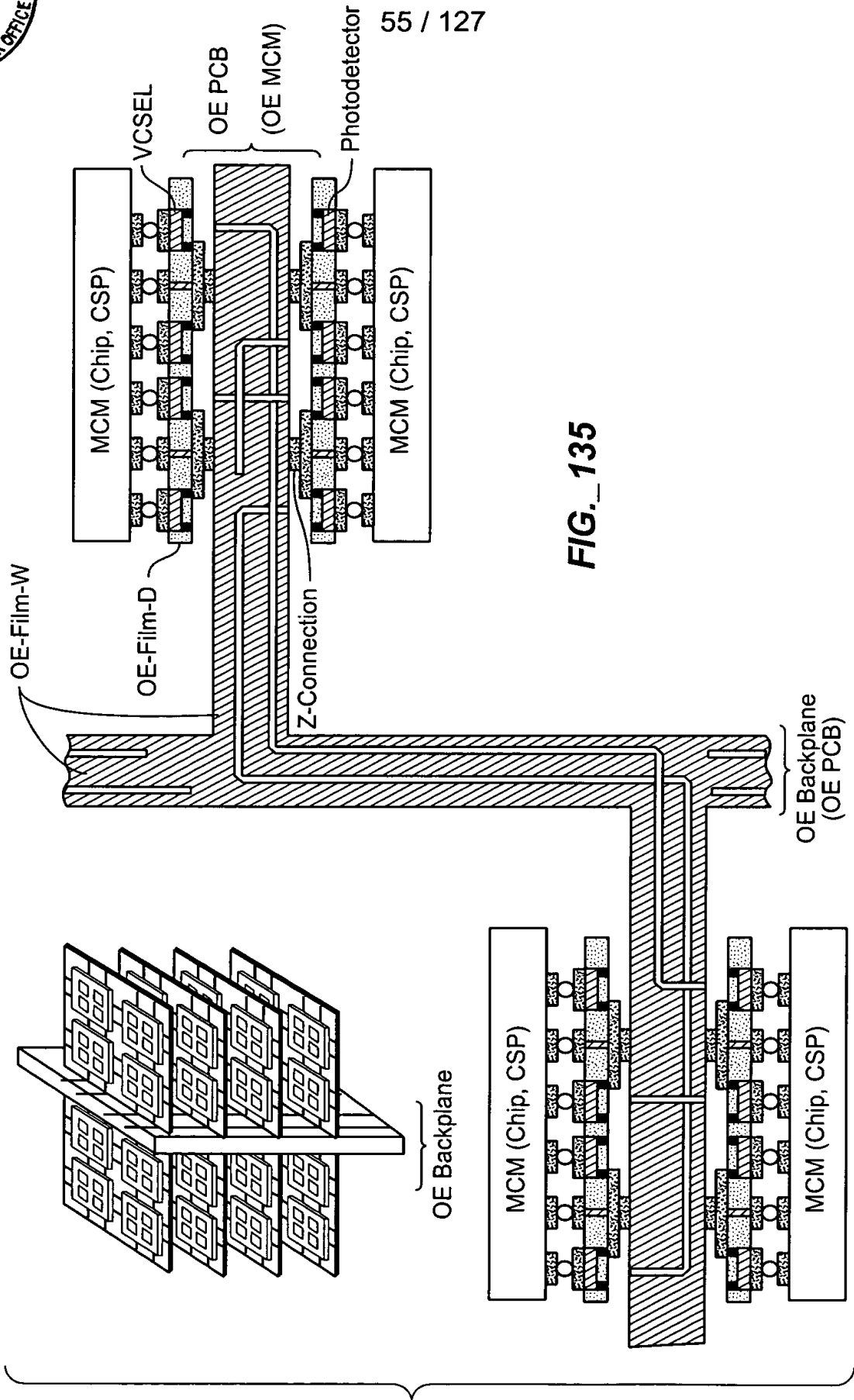


FIG.\_134



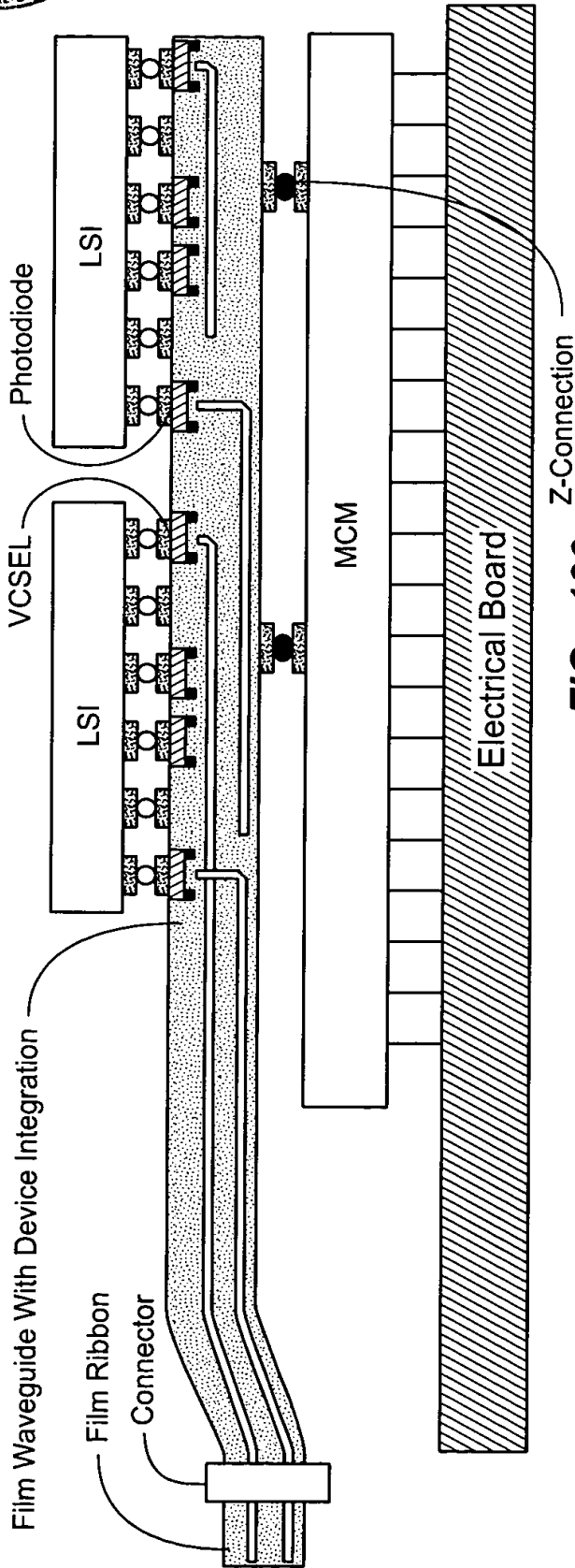


FIG. 136

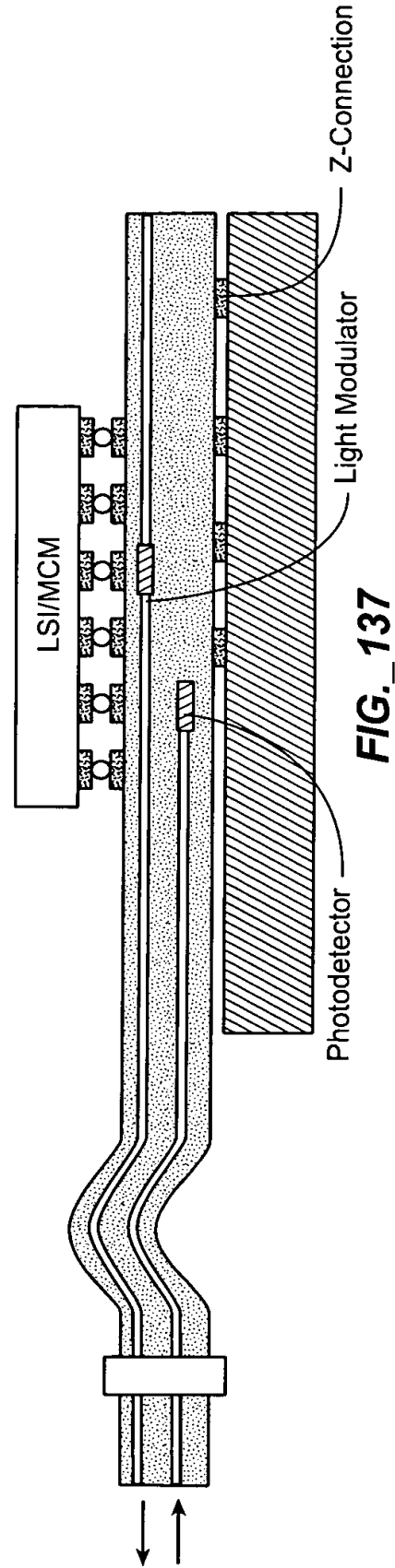
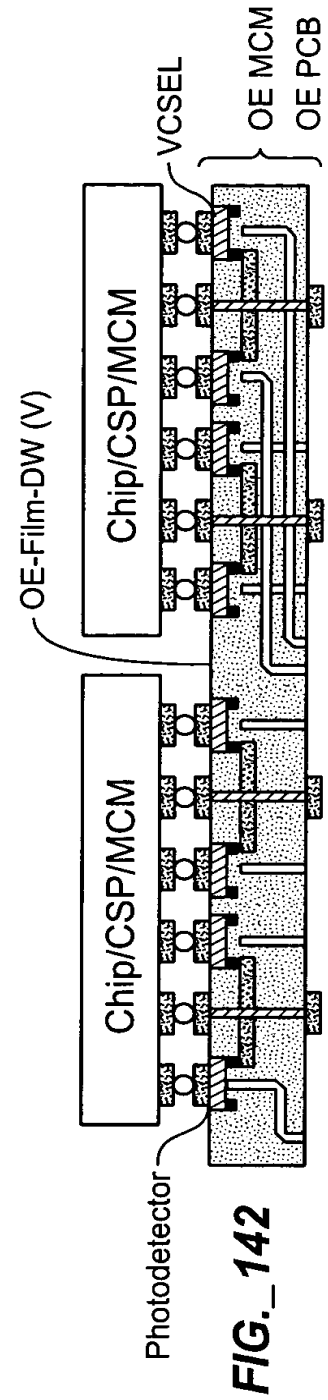
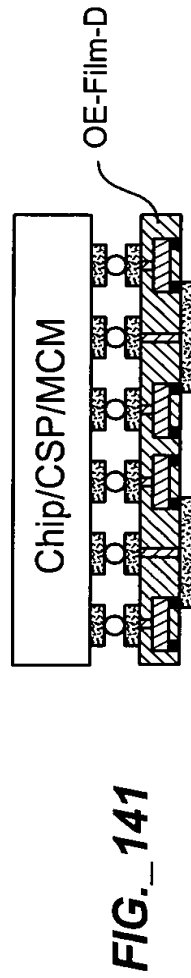
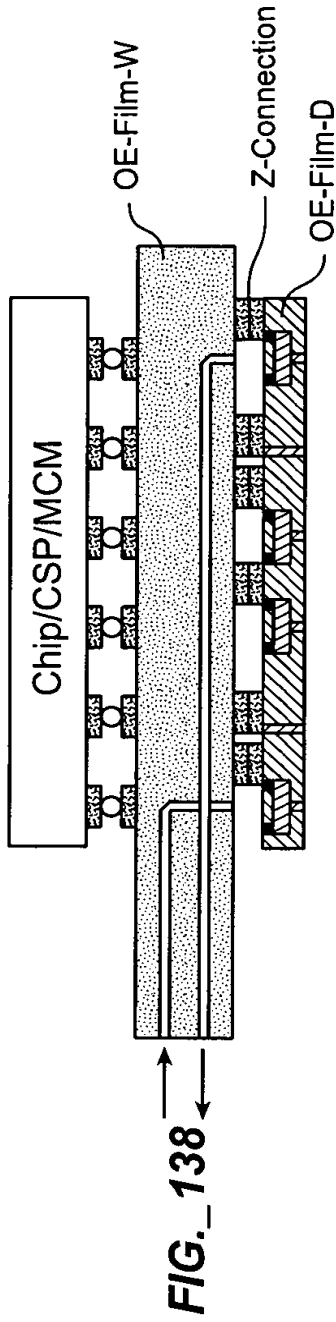


FIG. 137





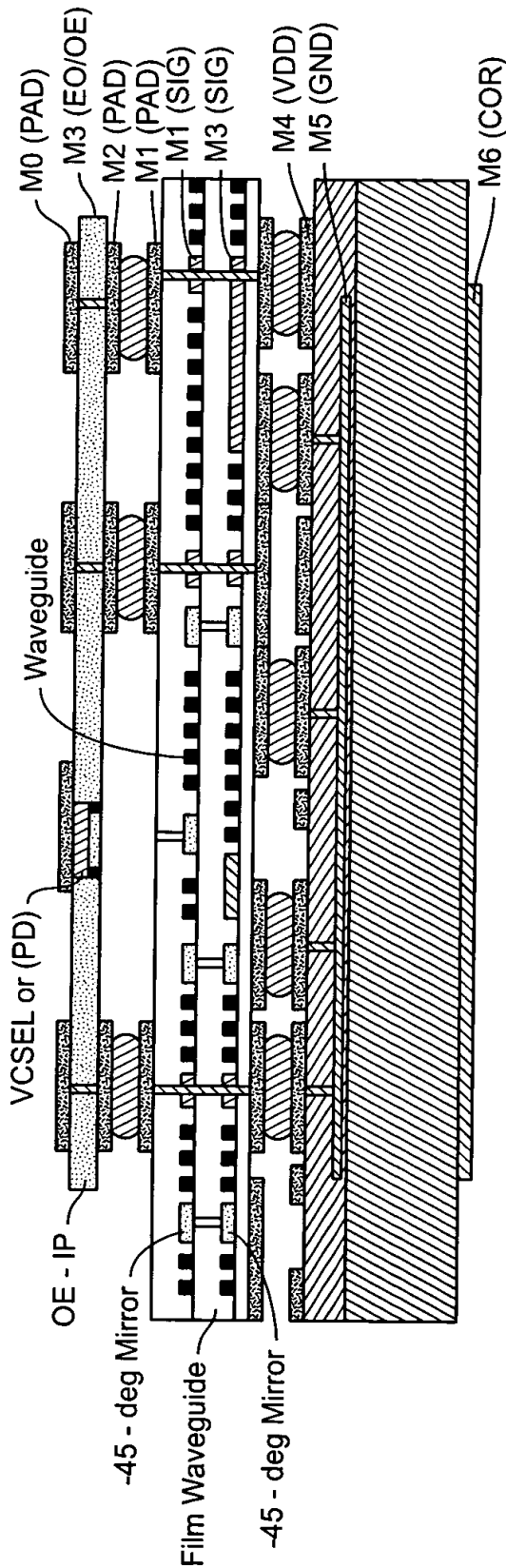


FIG. 139

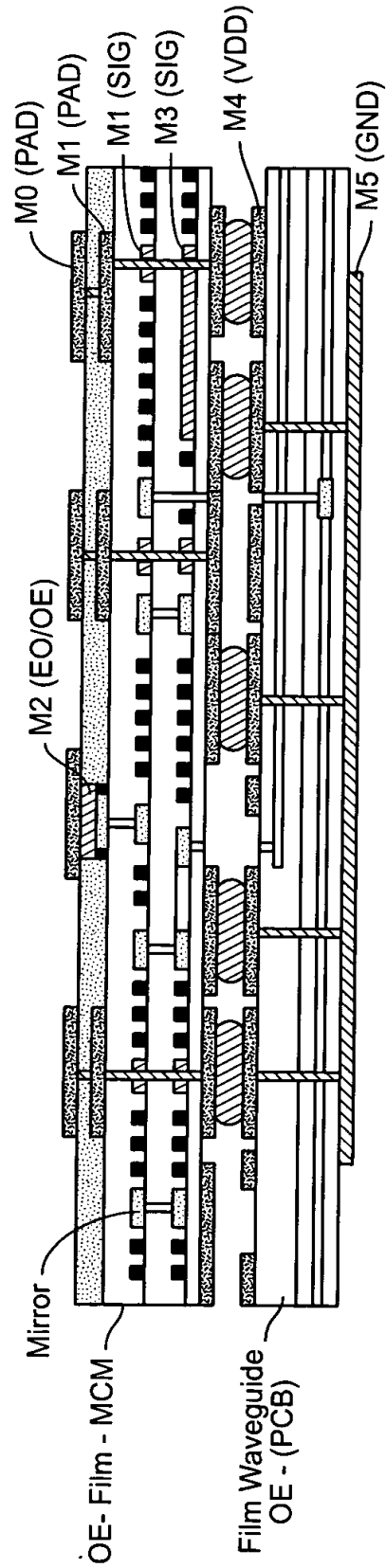
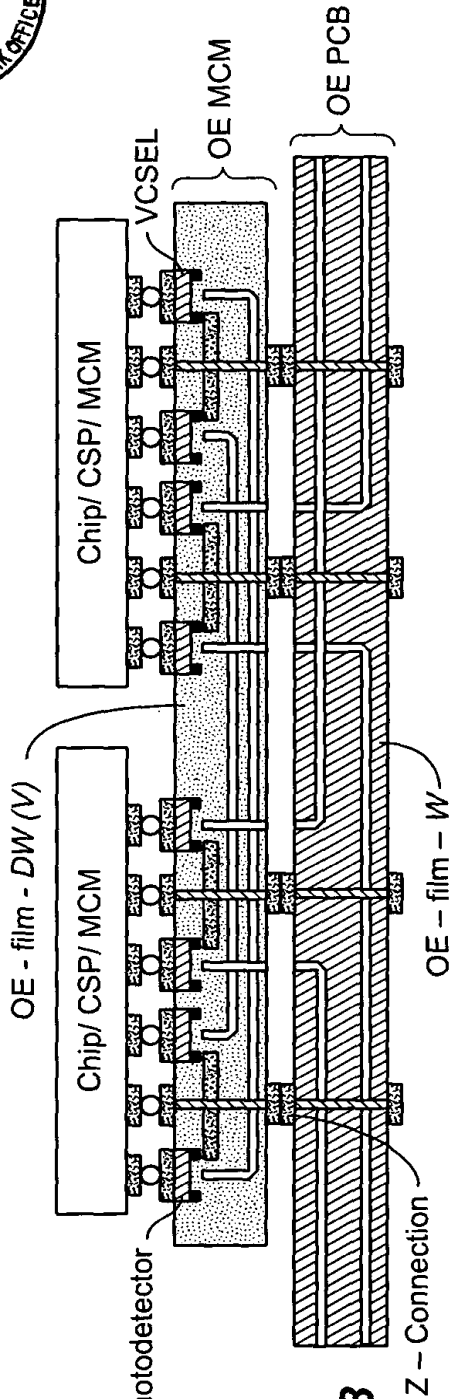
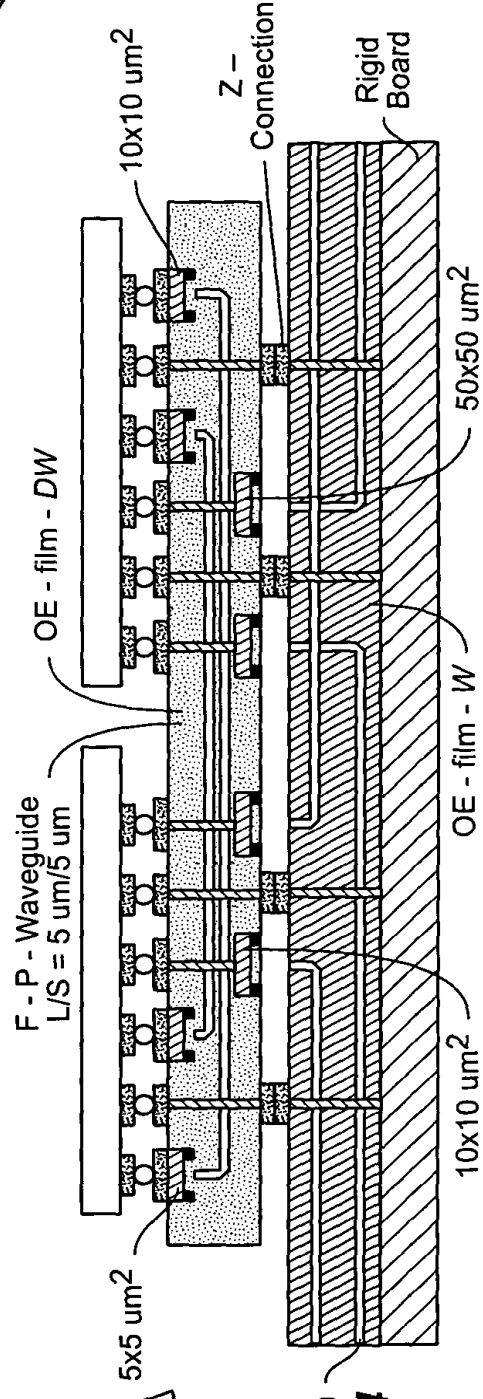


FIG. 140



**FIG. 143**



**FIG. 144**

L/S = 30/30 um



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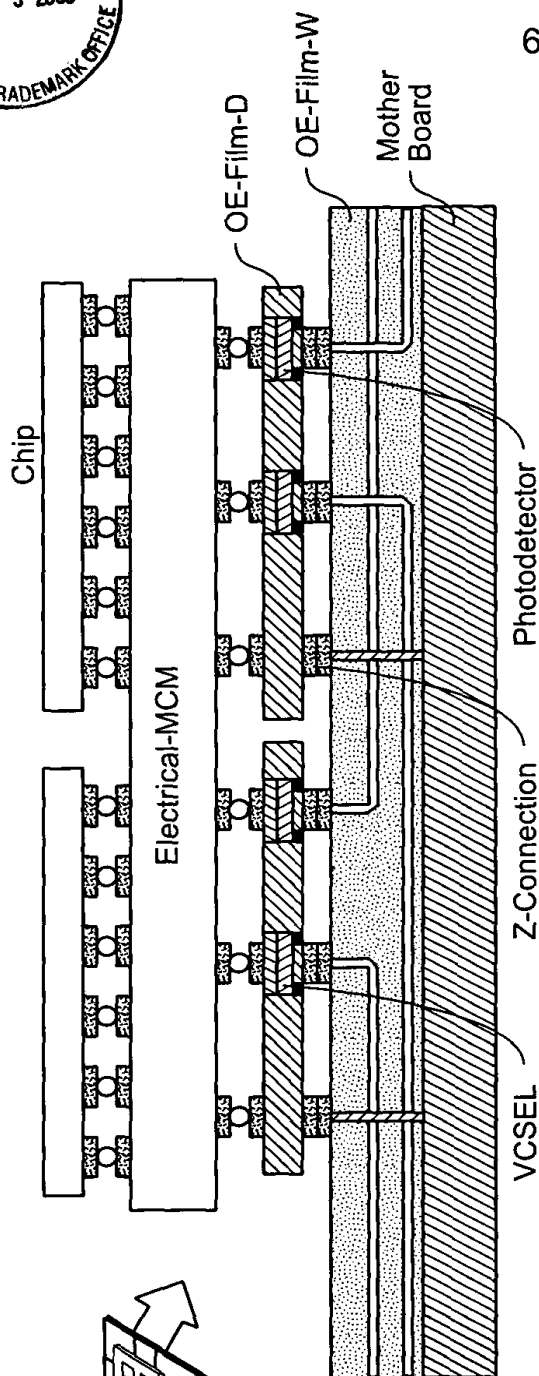


FIG. 145

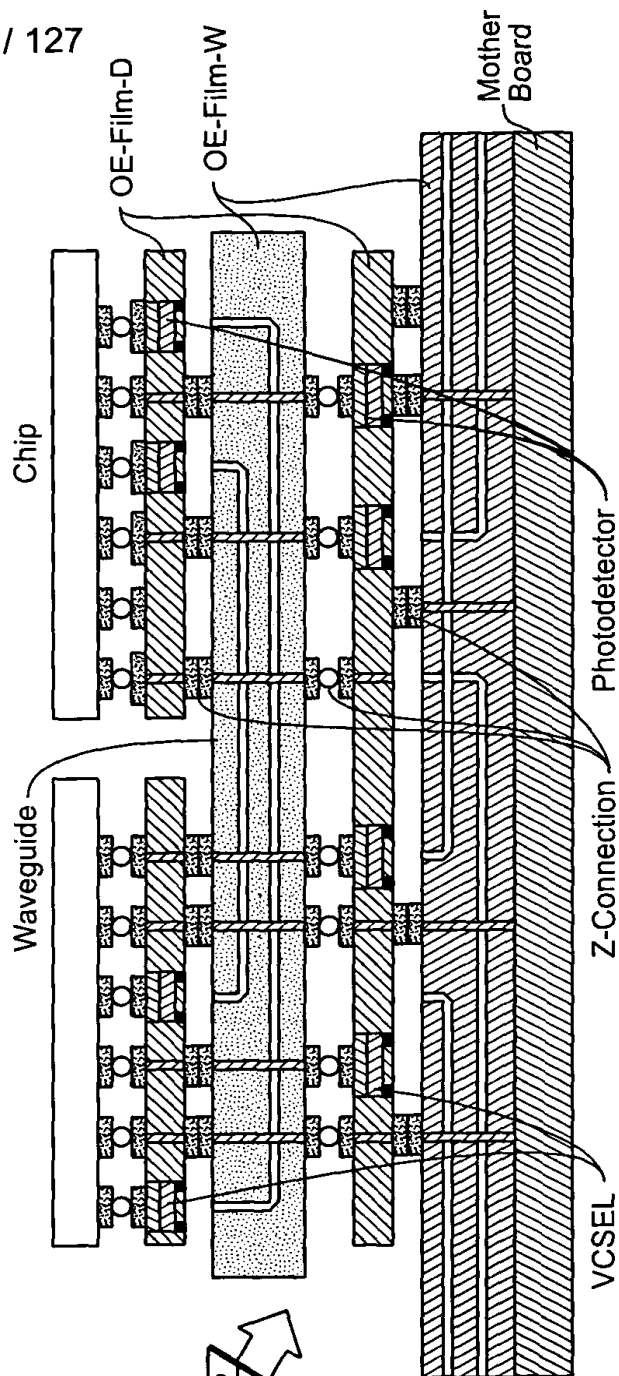
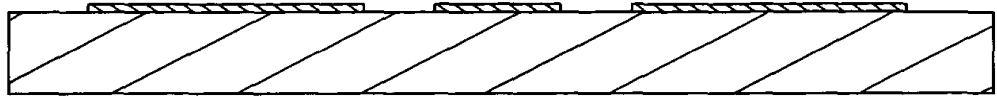


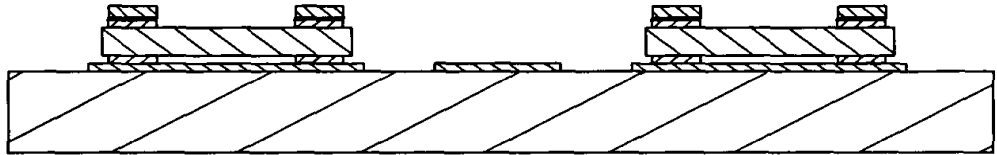
FIG. 146



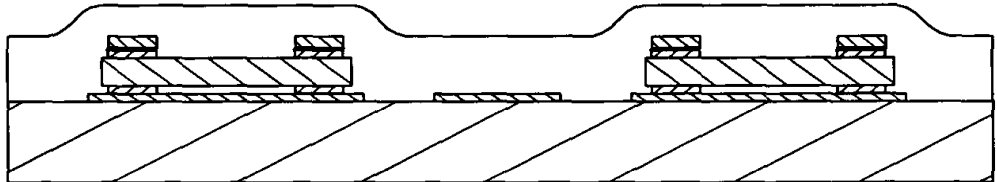
**FIG. 147**  
(PADS/LINES FORMATION)



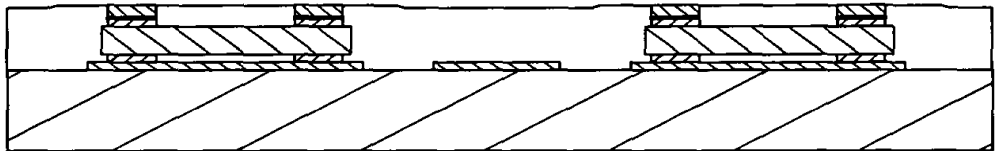
**FIG. 148**  
(PLACEMENT OF THIN-FILM DEVICES)



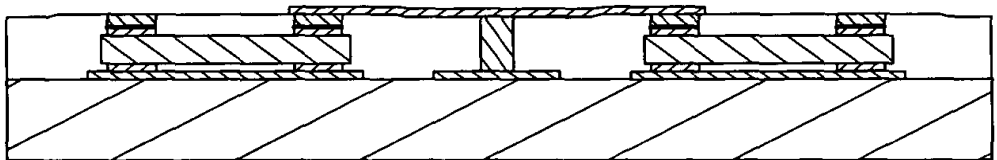
**FIG. 149**  
(POLYMER COAT)



**FIG. 150**  
(PLANARIZATION)



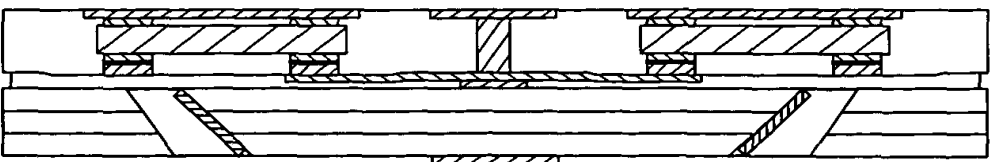
**FIG. 151**  
(VIAS/PADS/LINES FORMATION)

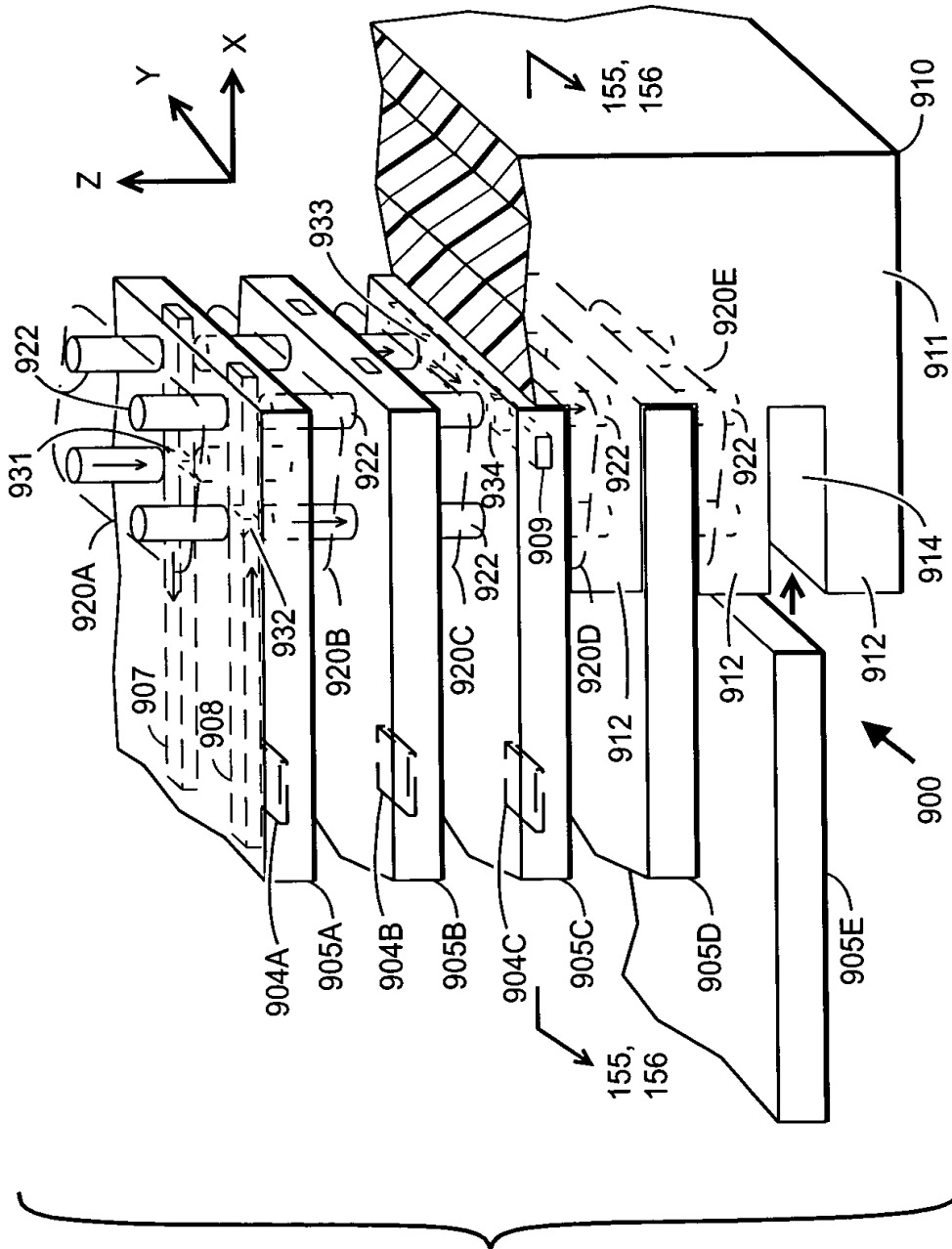


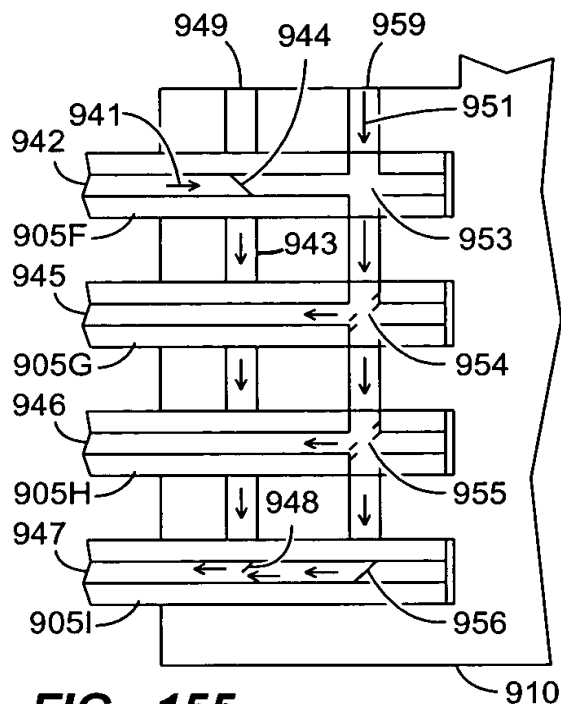
**FIG. 152**  
(SUBSTRATE REMOVAL)



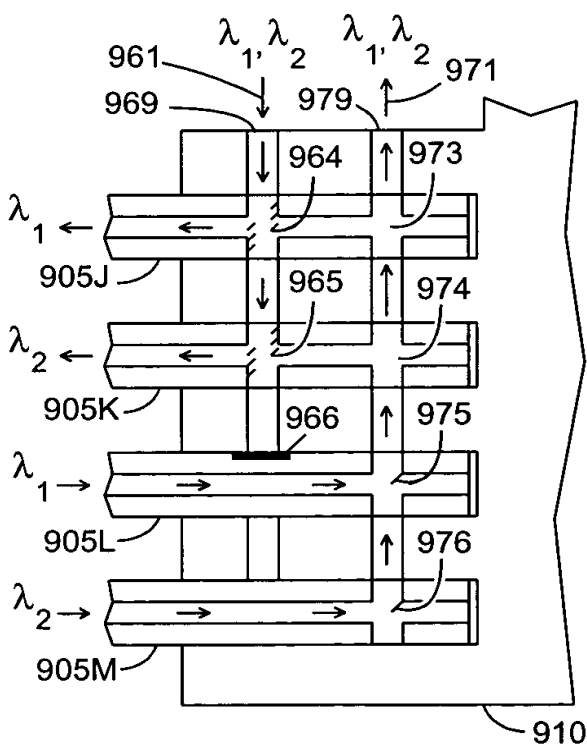
**FIG. 153**  
(WAVEGUIDE FORMATION)



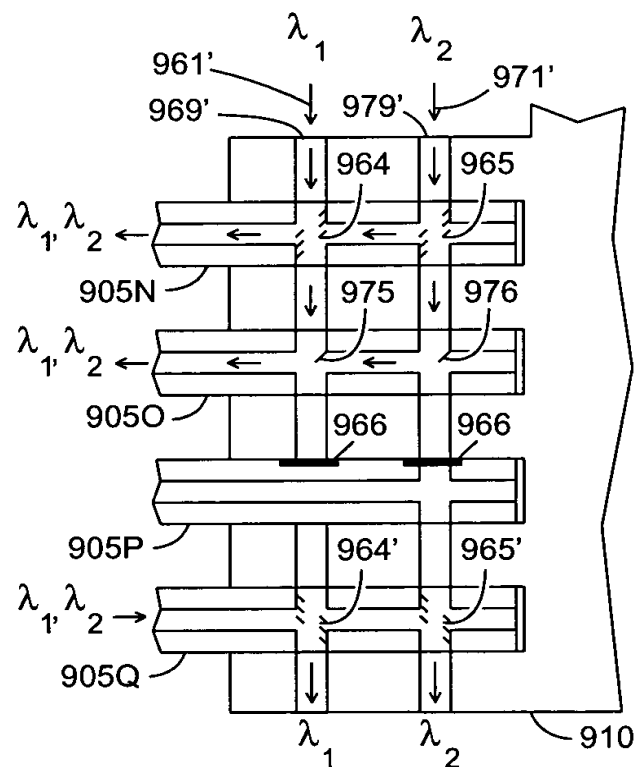




**FIG. 155**



**FIG. 156-1**



**FIG. 156-2**

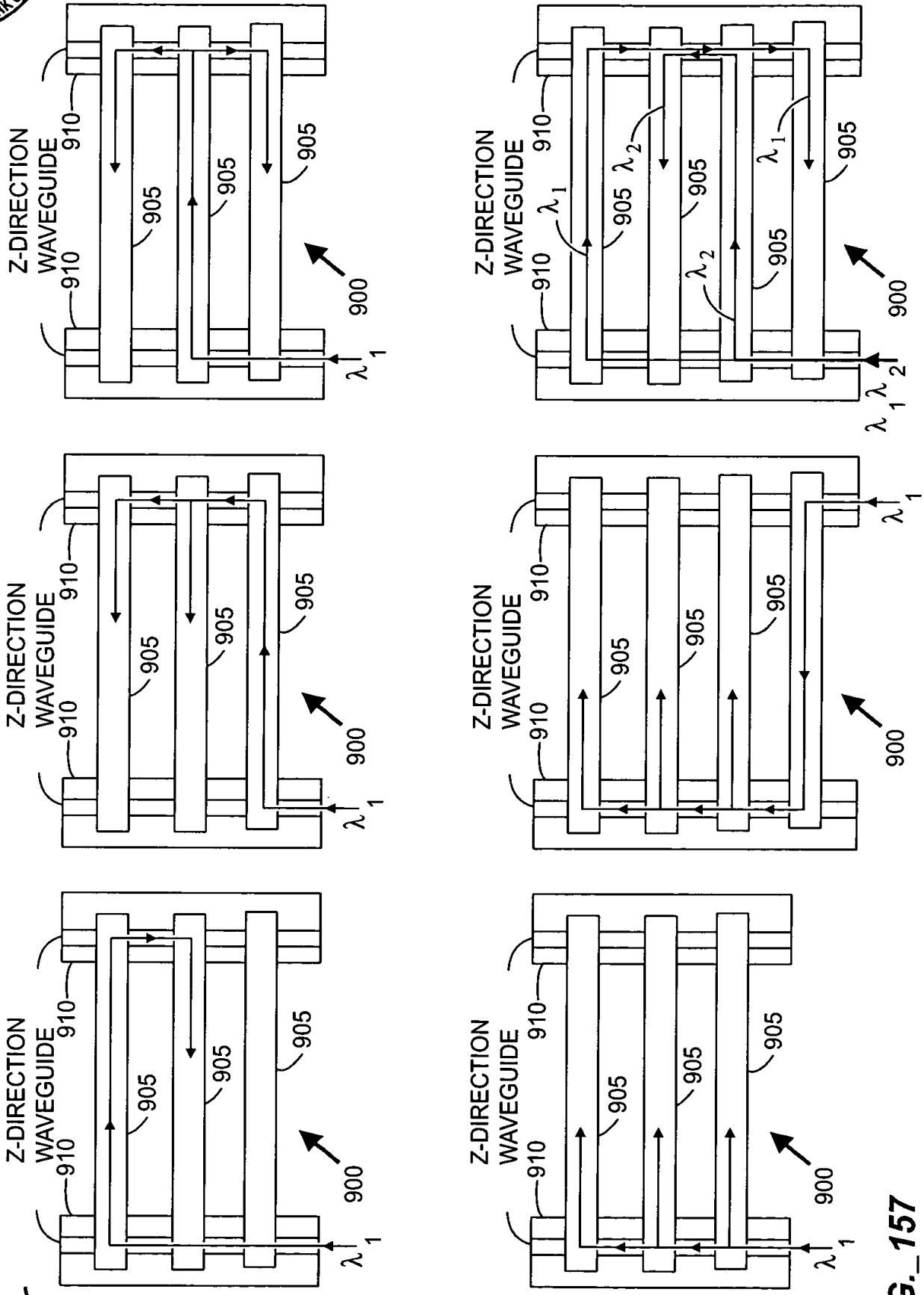
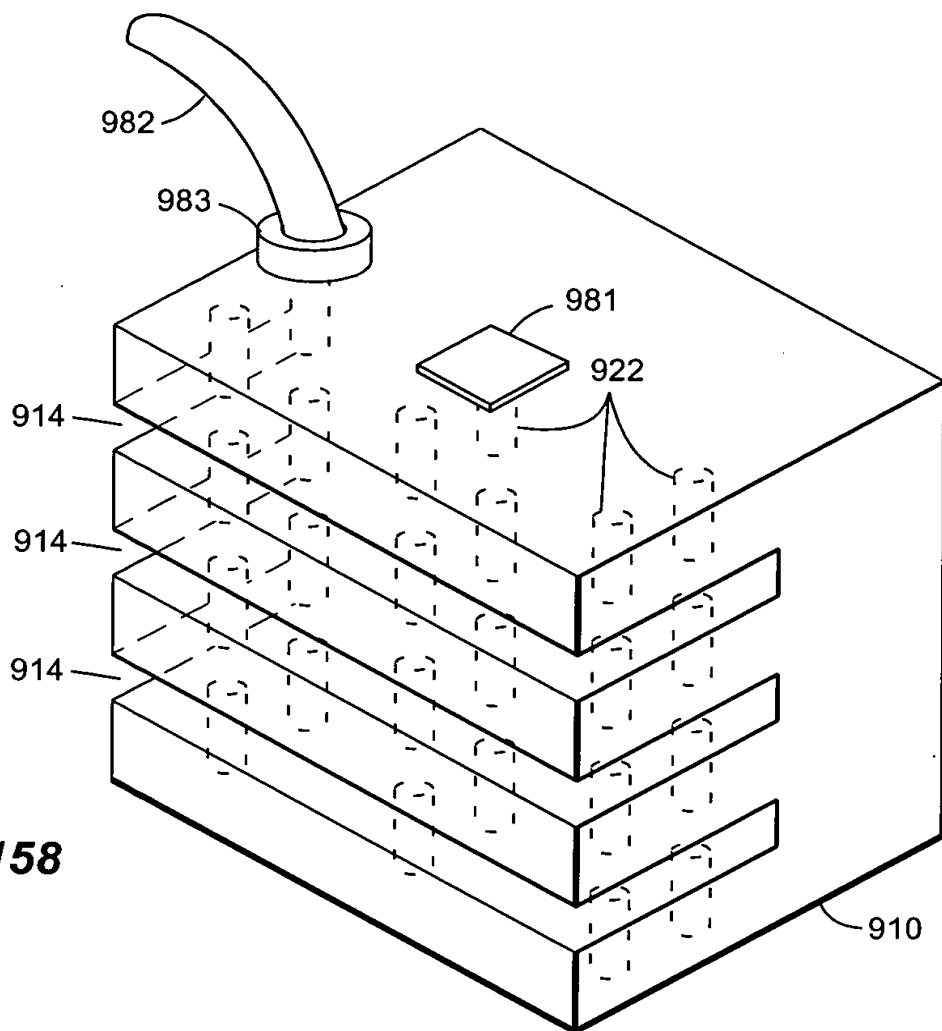
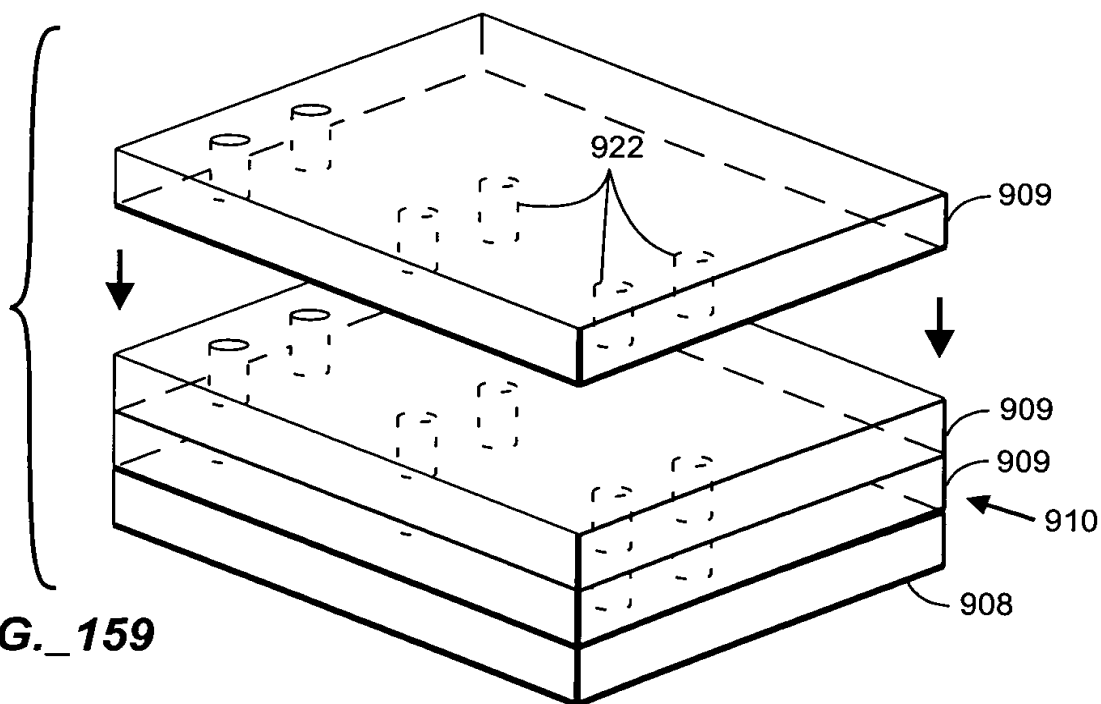


FIG. 157





**FIG.\_158**

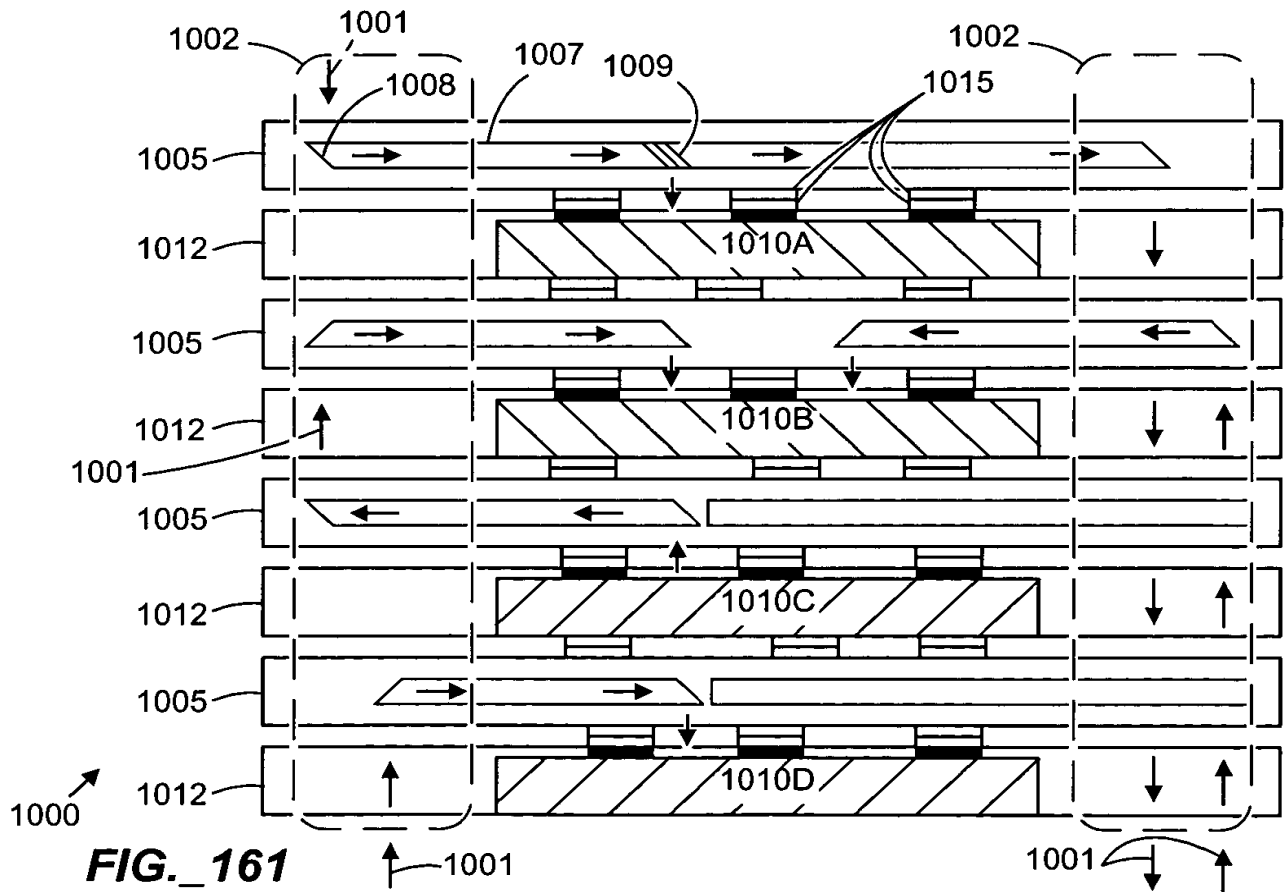
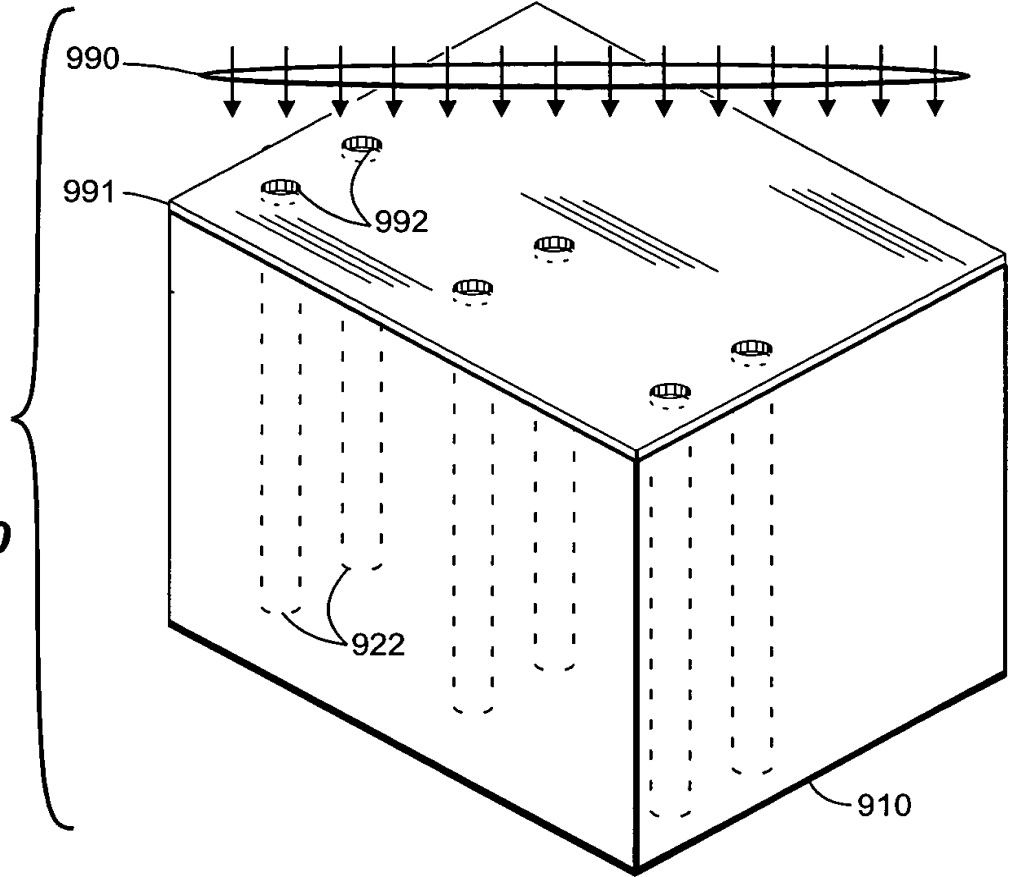


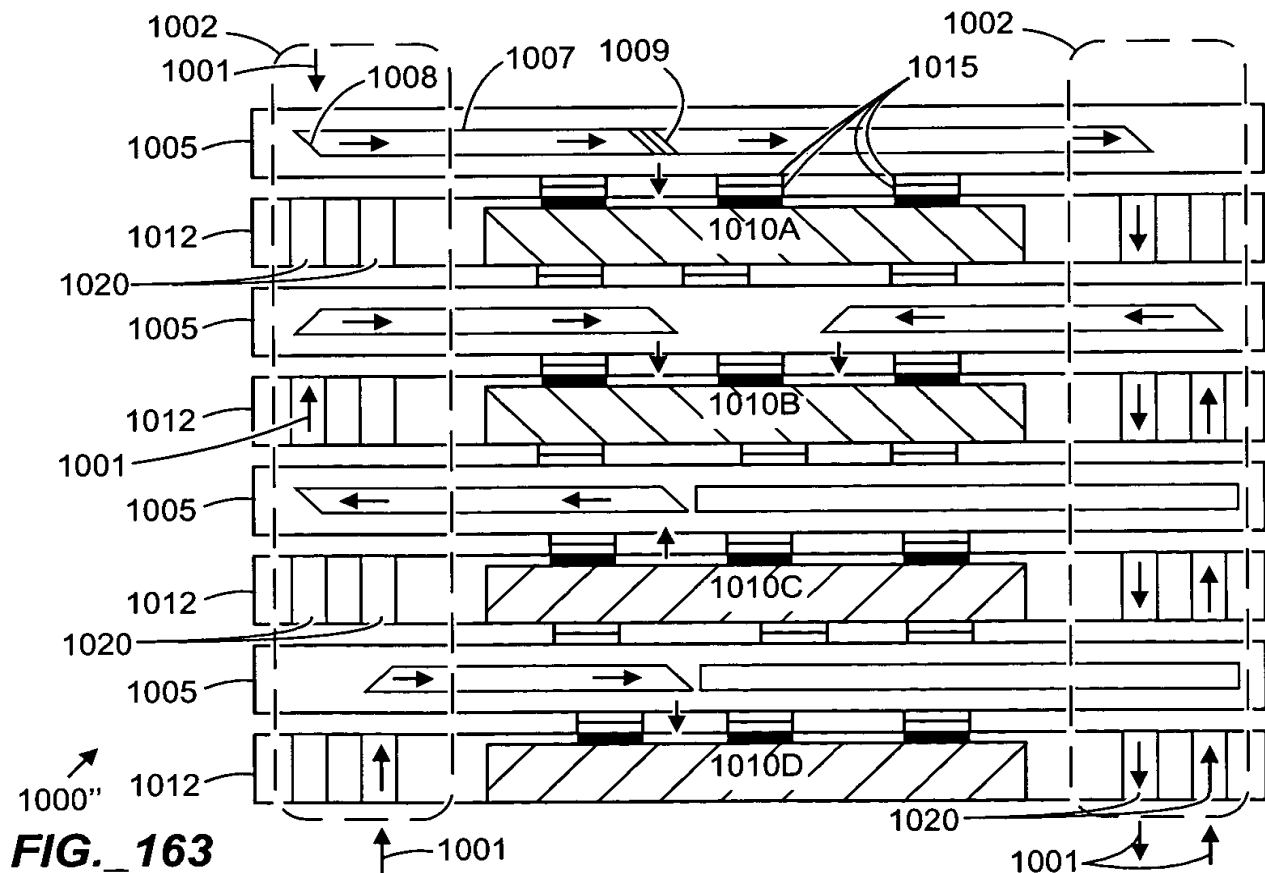
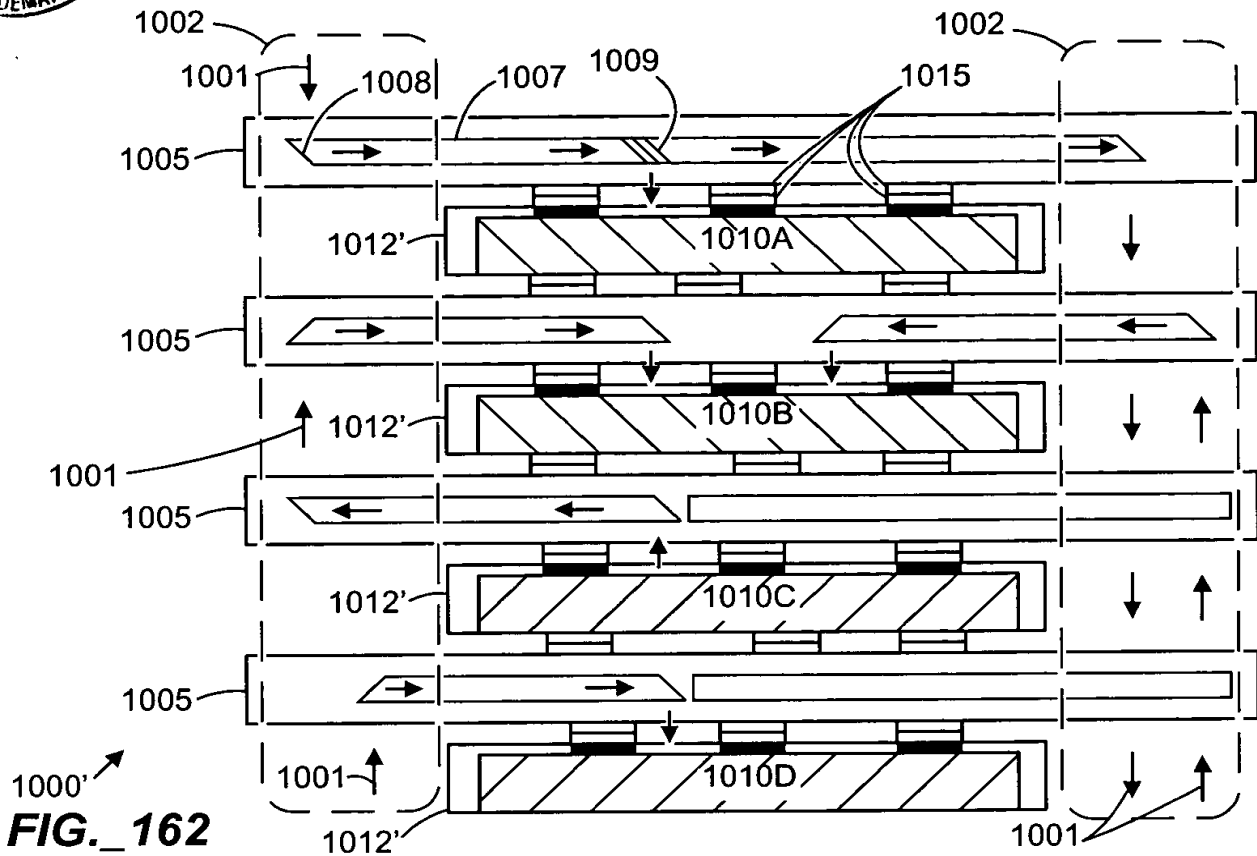
**FIG.\_159**

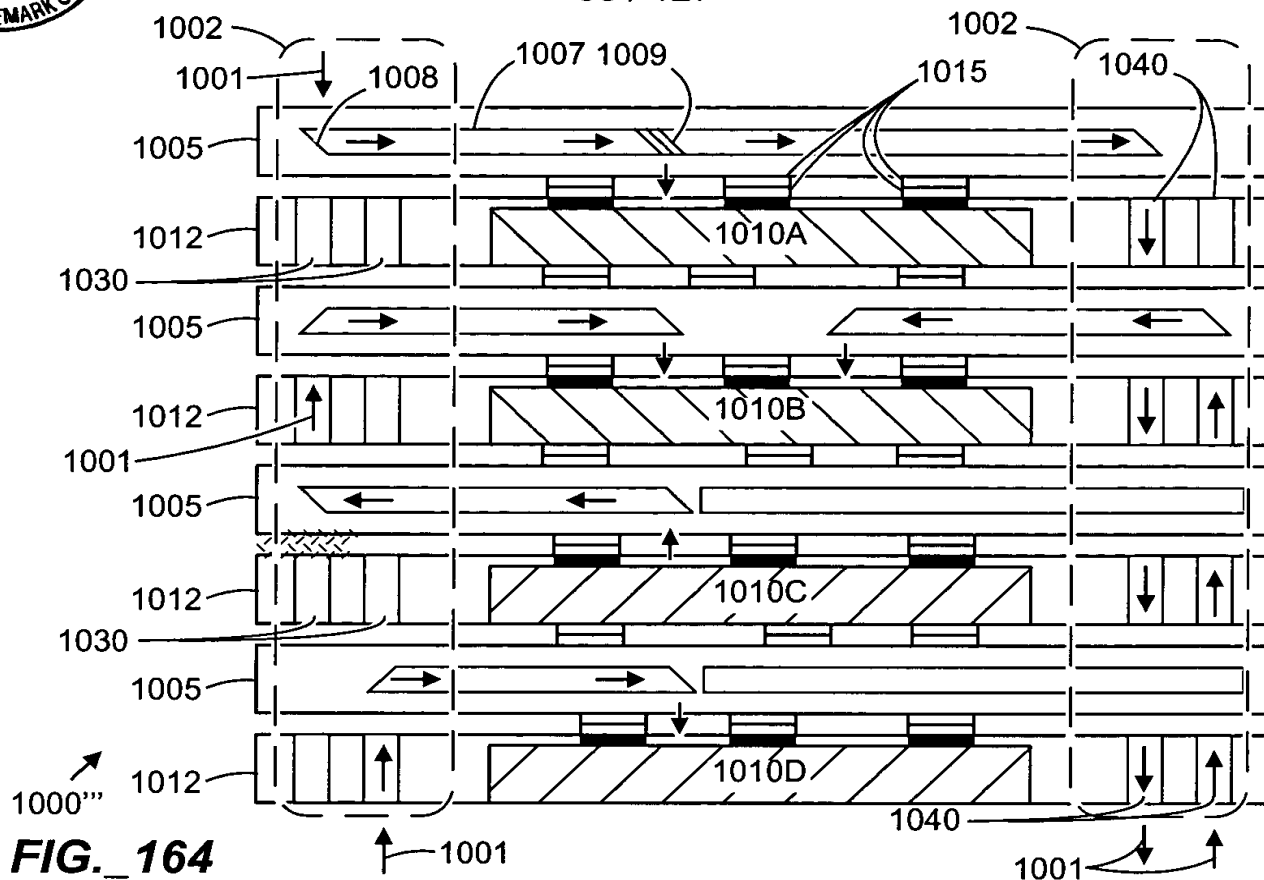


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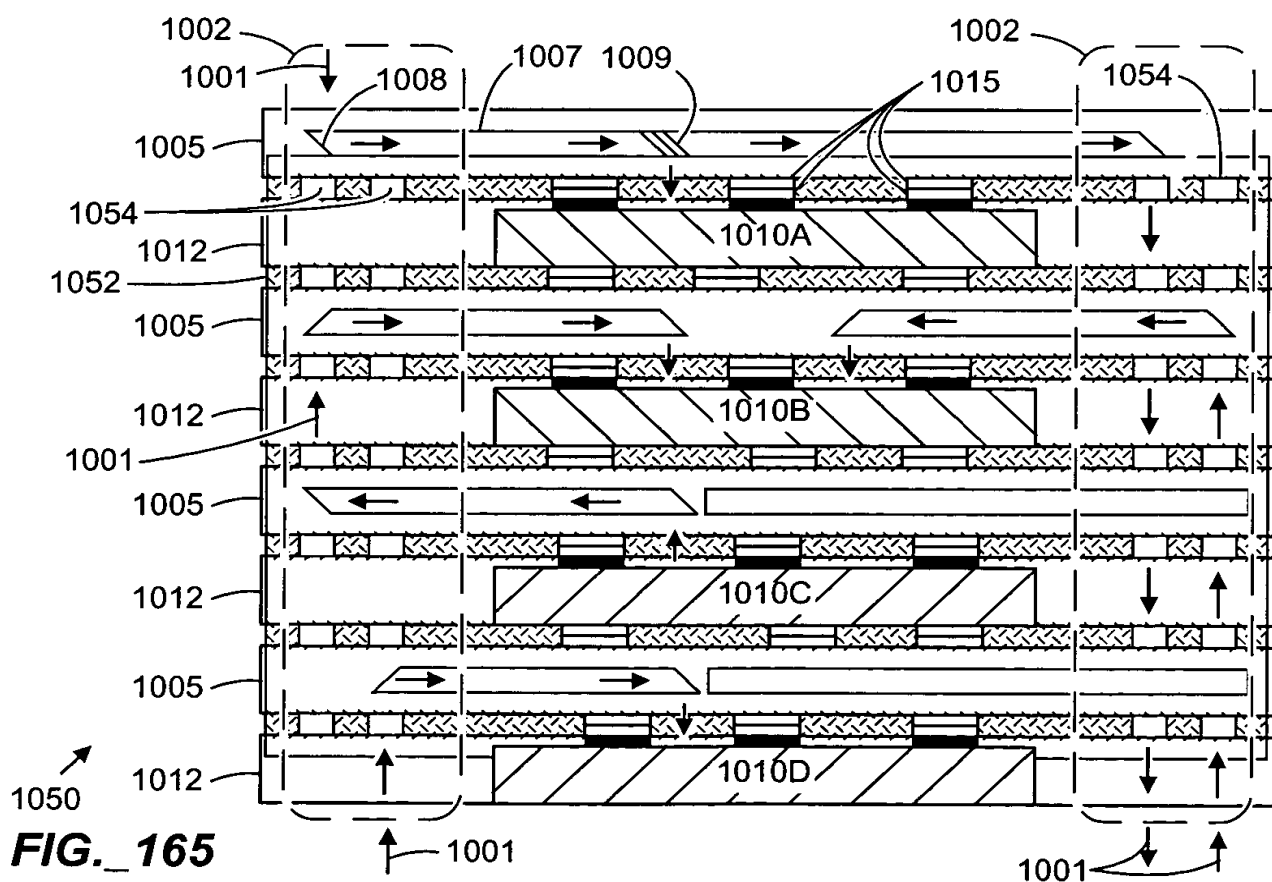
**FIG. 160**



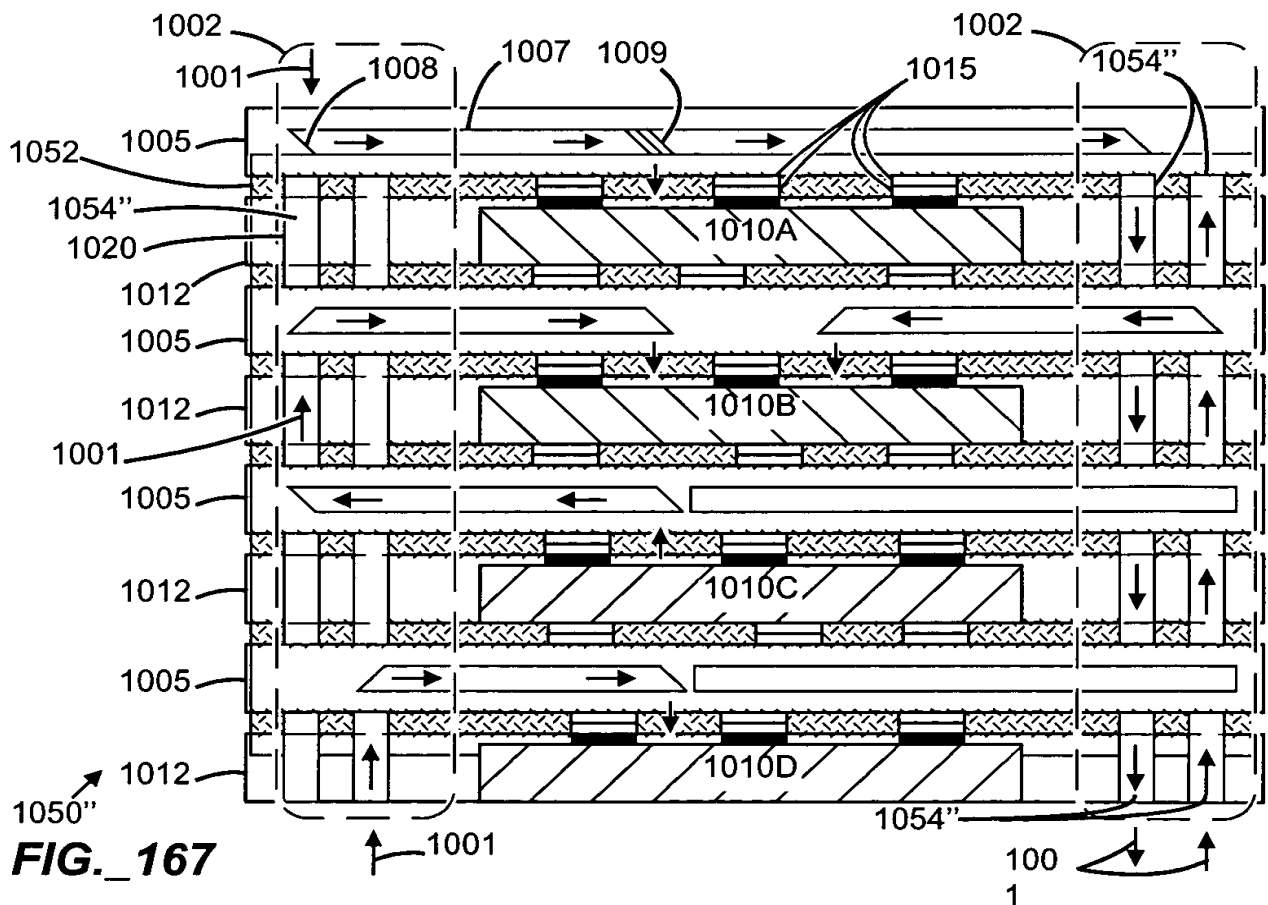
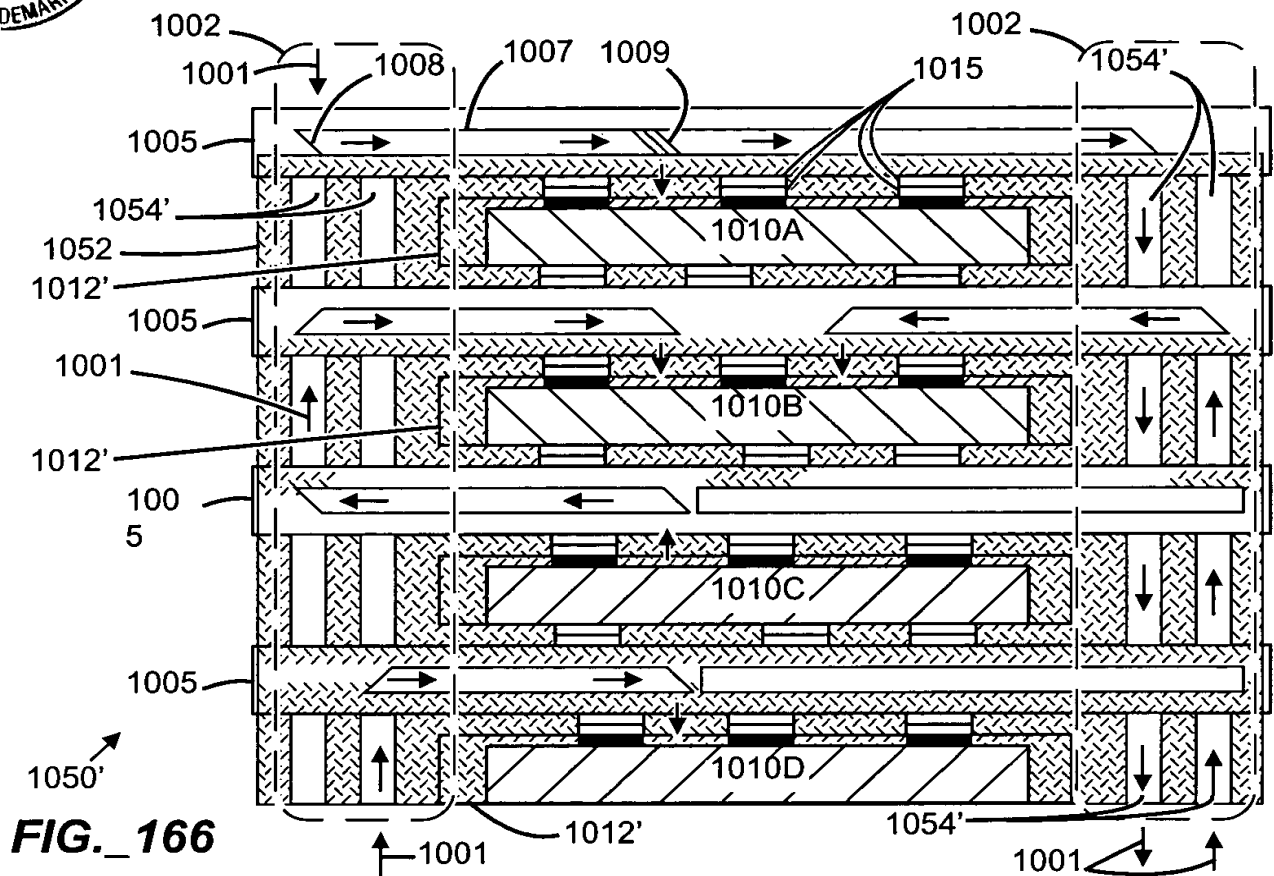




**FIG. 164**

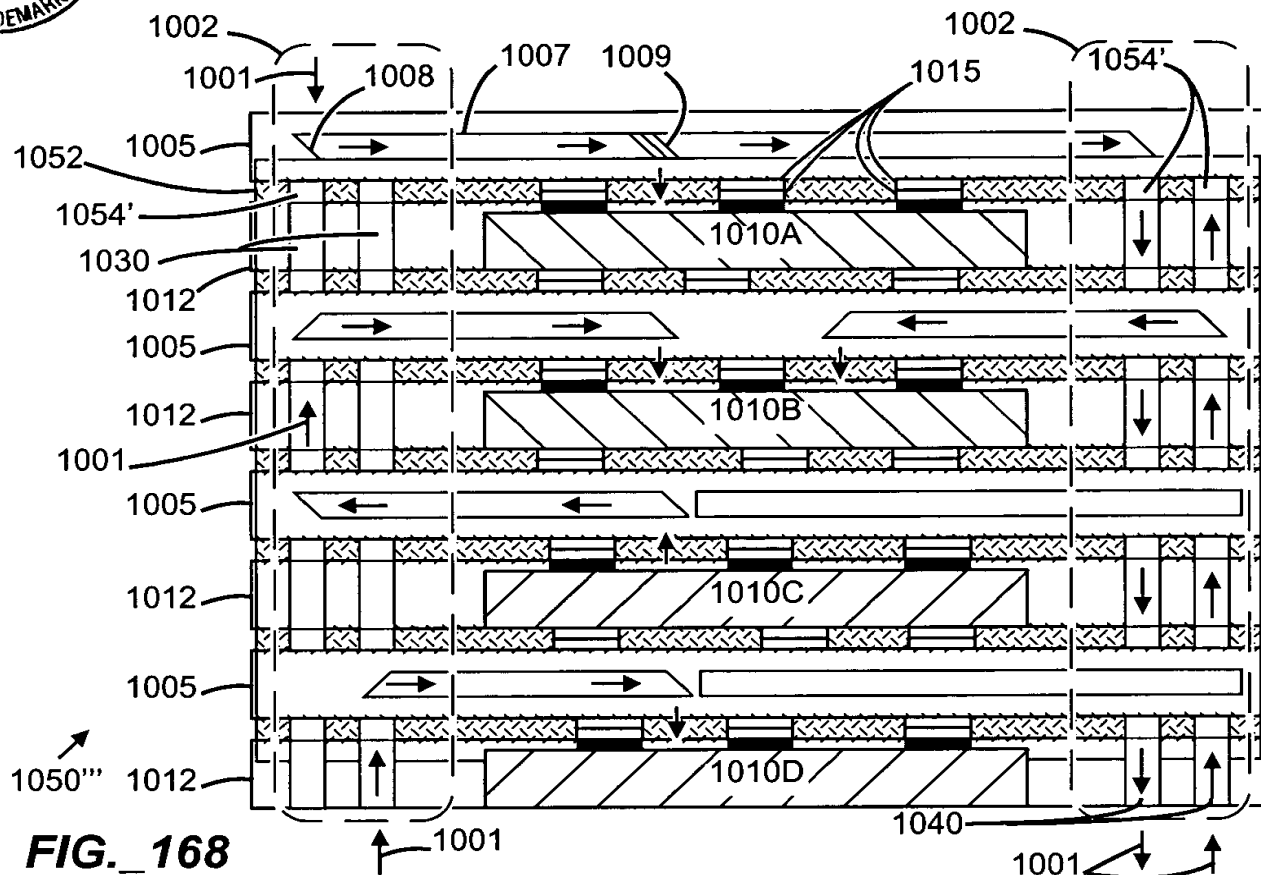


**FIG. 165**

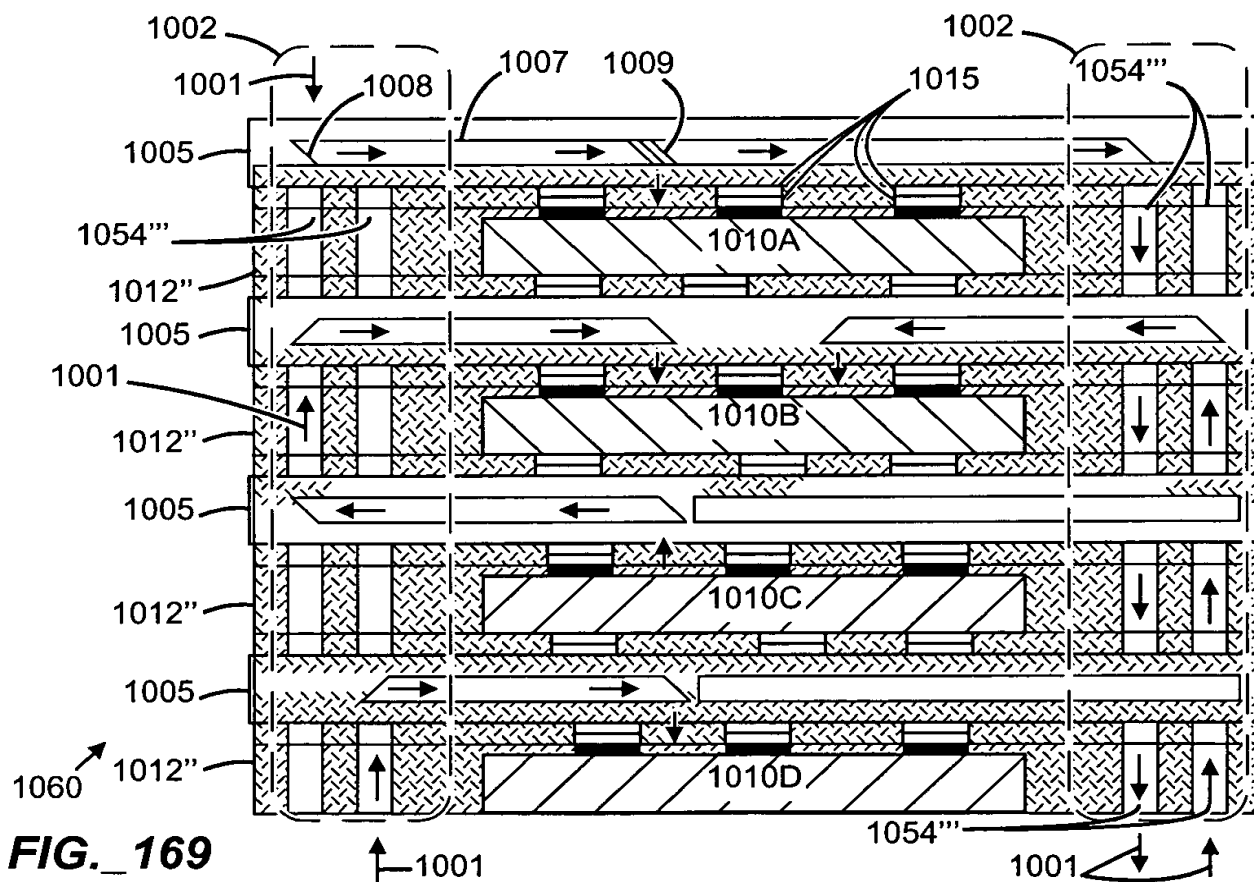




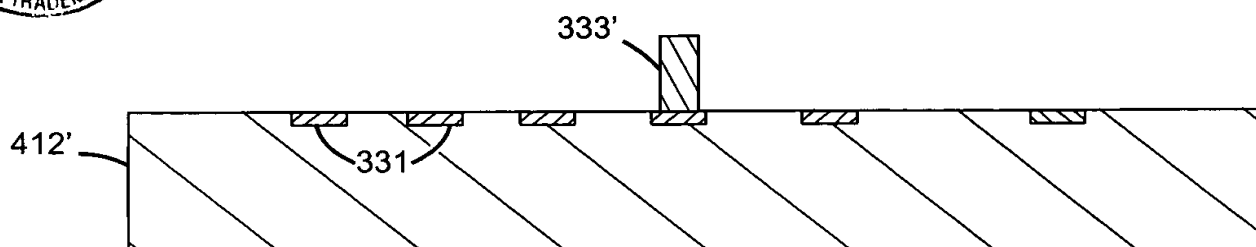
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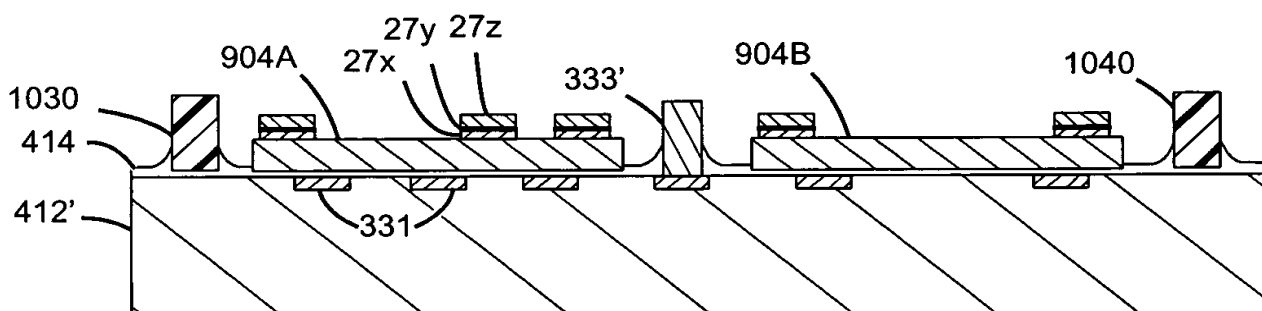
**FIG. 168**



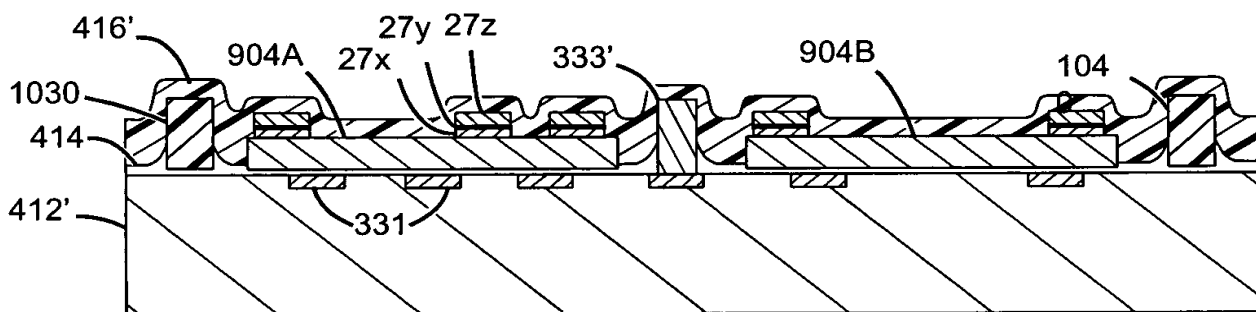
**FIG. 169**



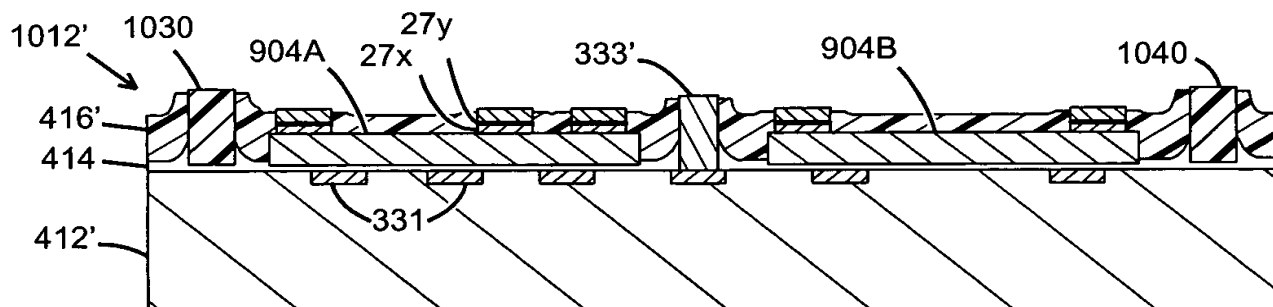
**FIG. 170**



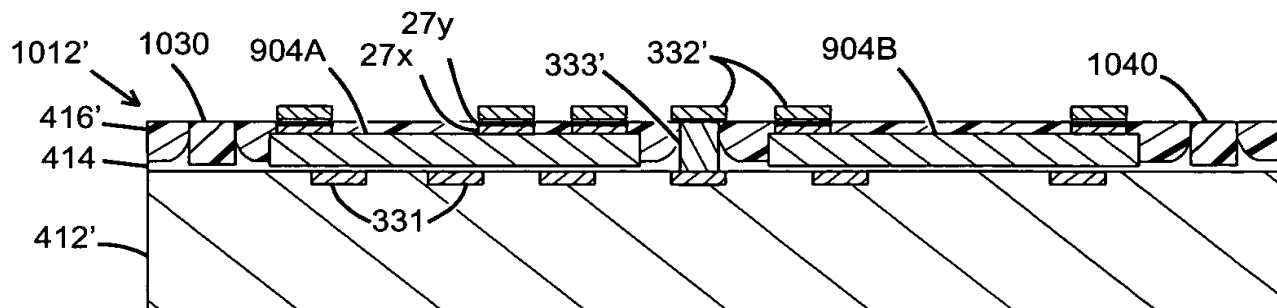
**FIG. 171**



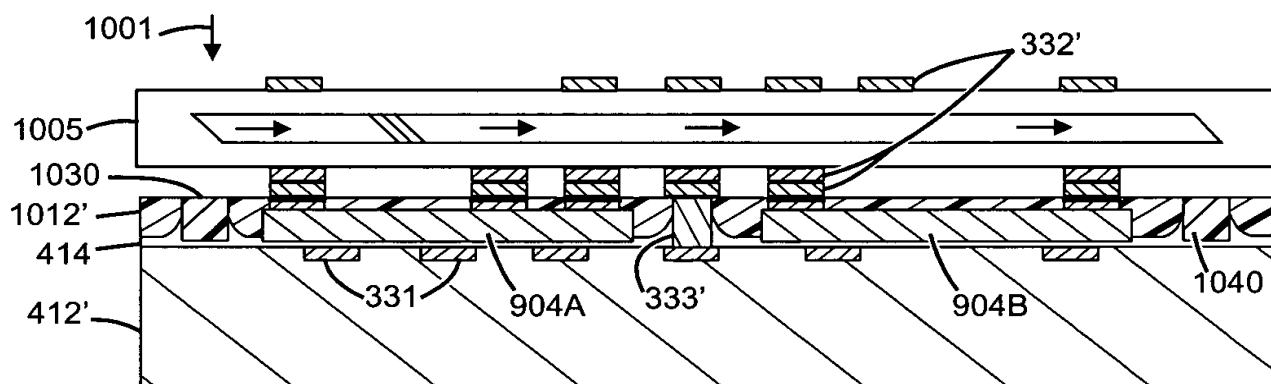
**FIG. 172**



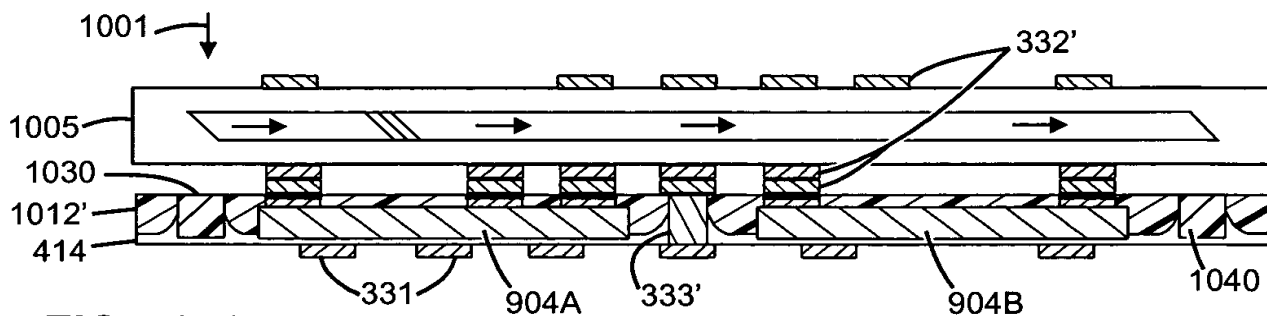
**FIG. 173**



**FIG. 174**



**FIG. 175**



**FIG. 176**





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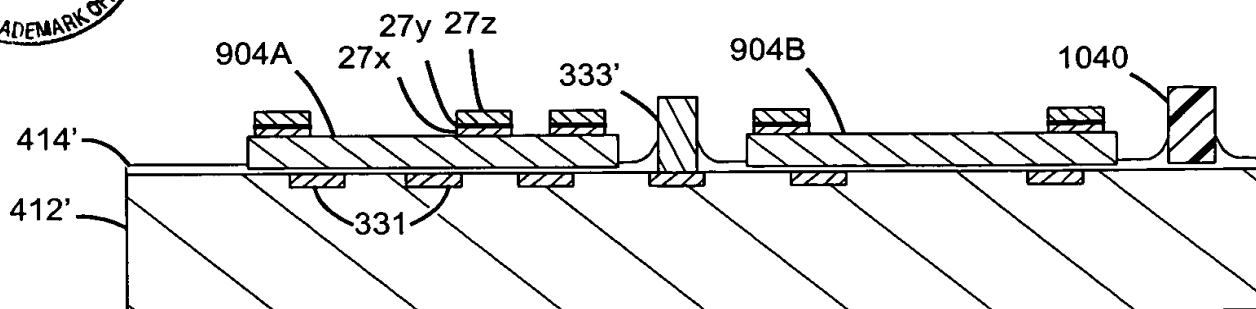


FIG. 177

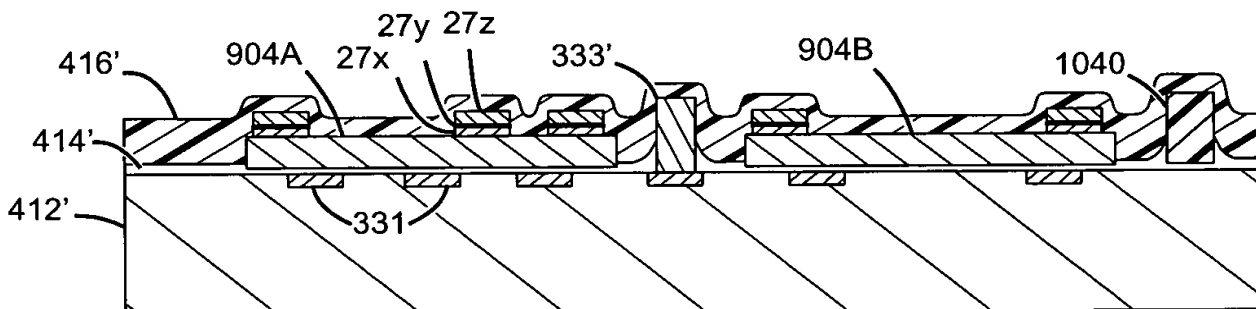


FIG. 178

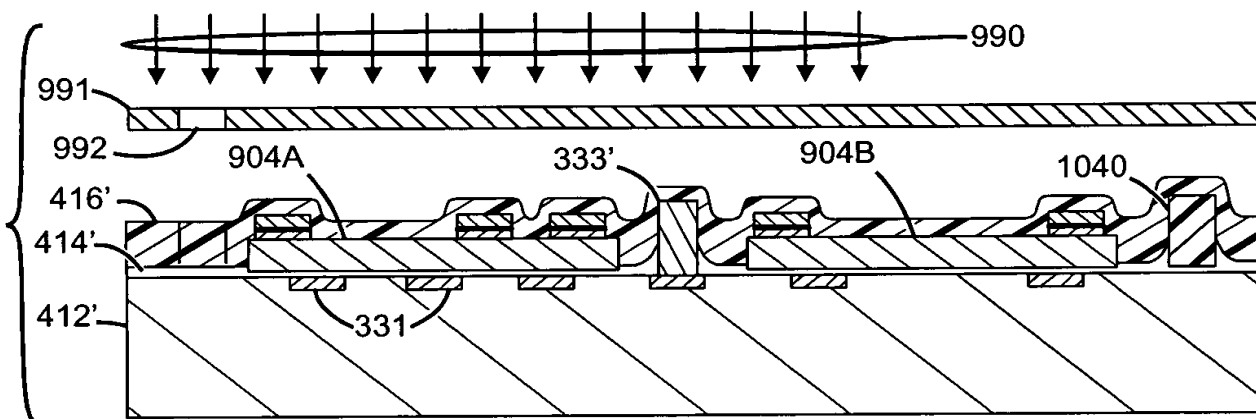


FIG. 179

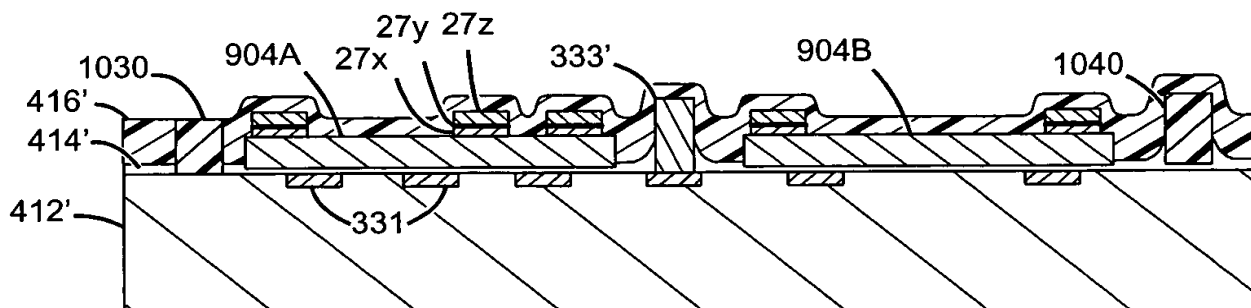
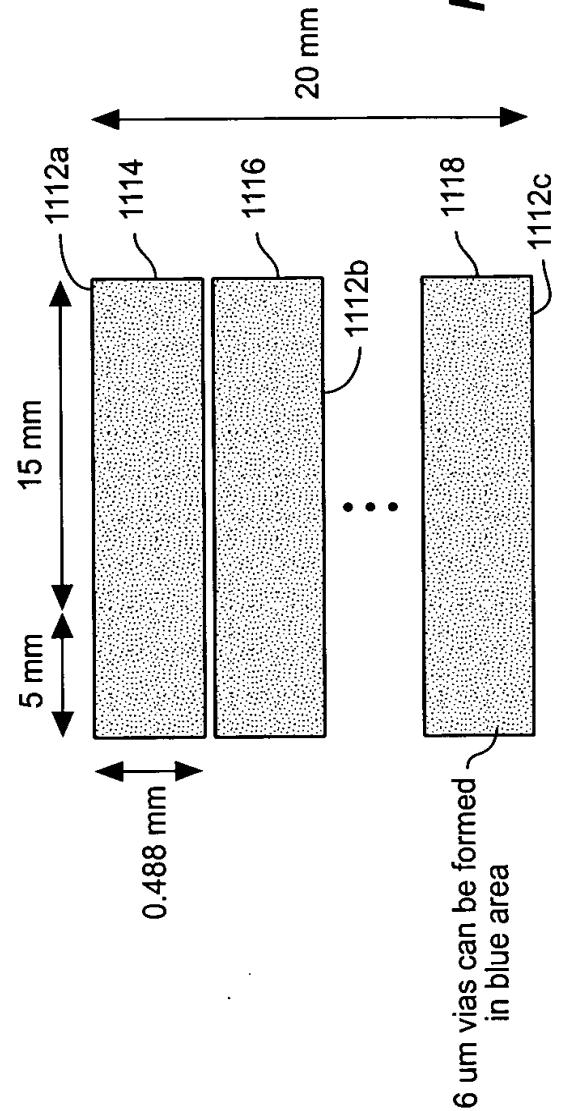
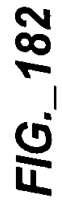
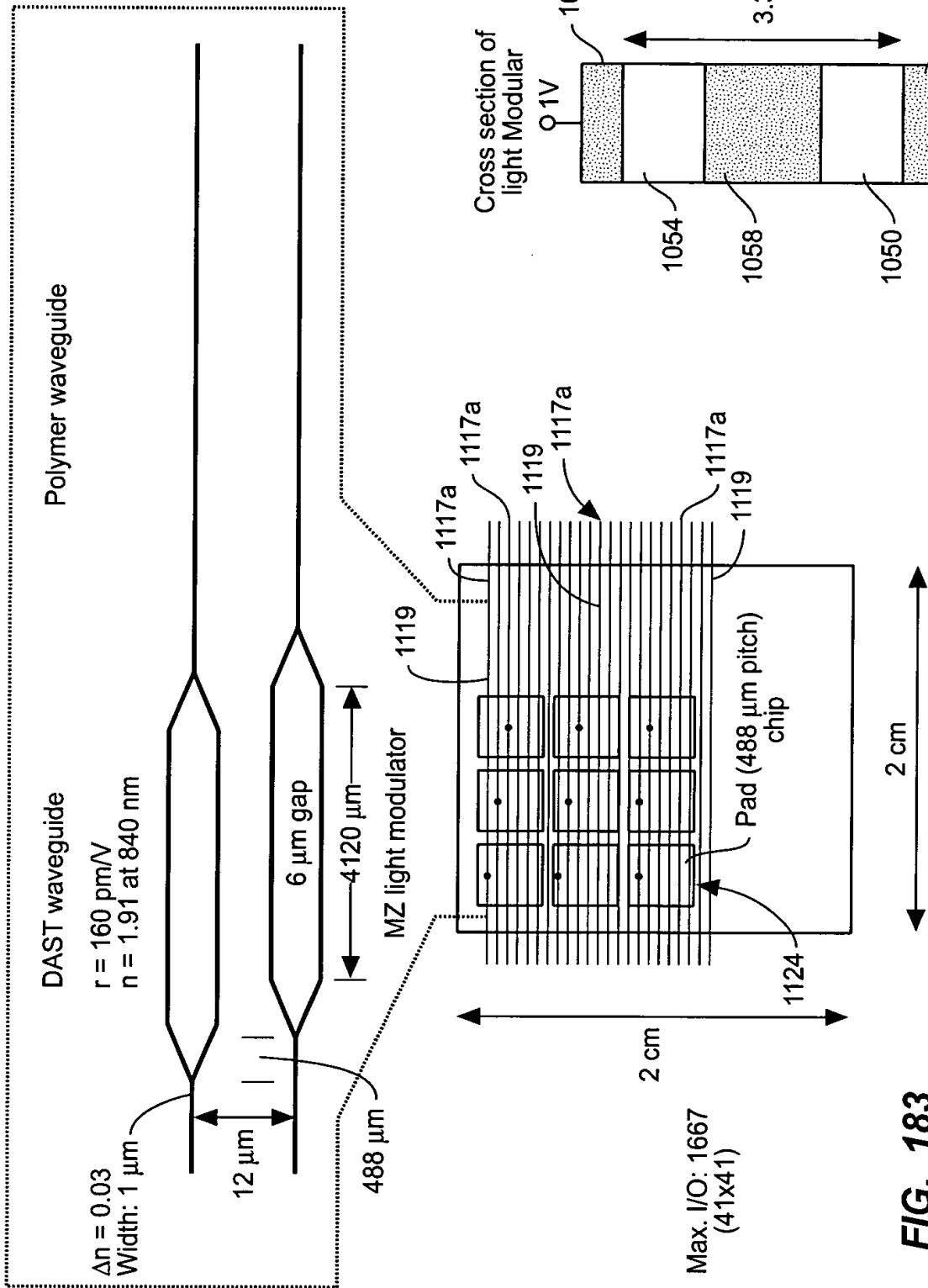
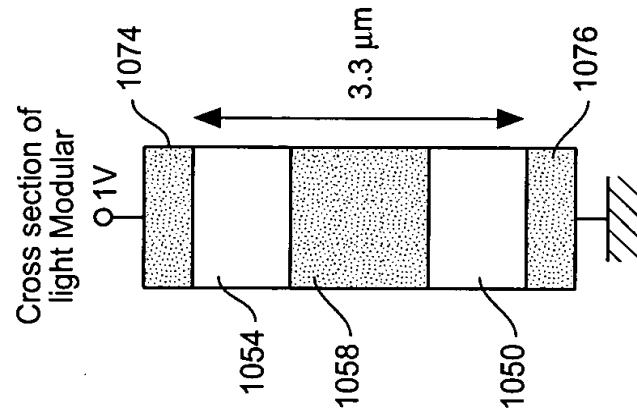


FIG. 180





**FIG. 183**



**FIG. 184**



Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]

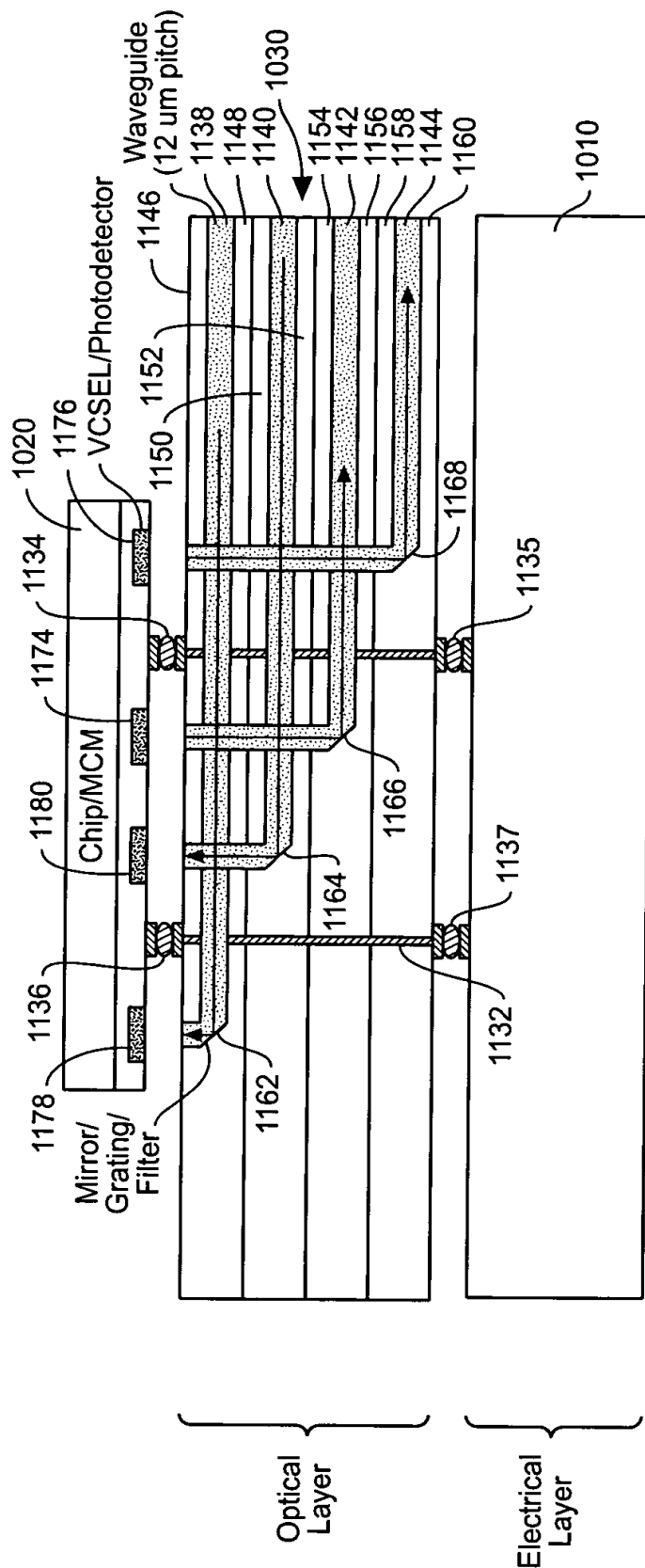


FIG. 185



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Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]

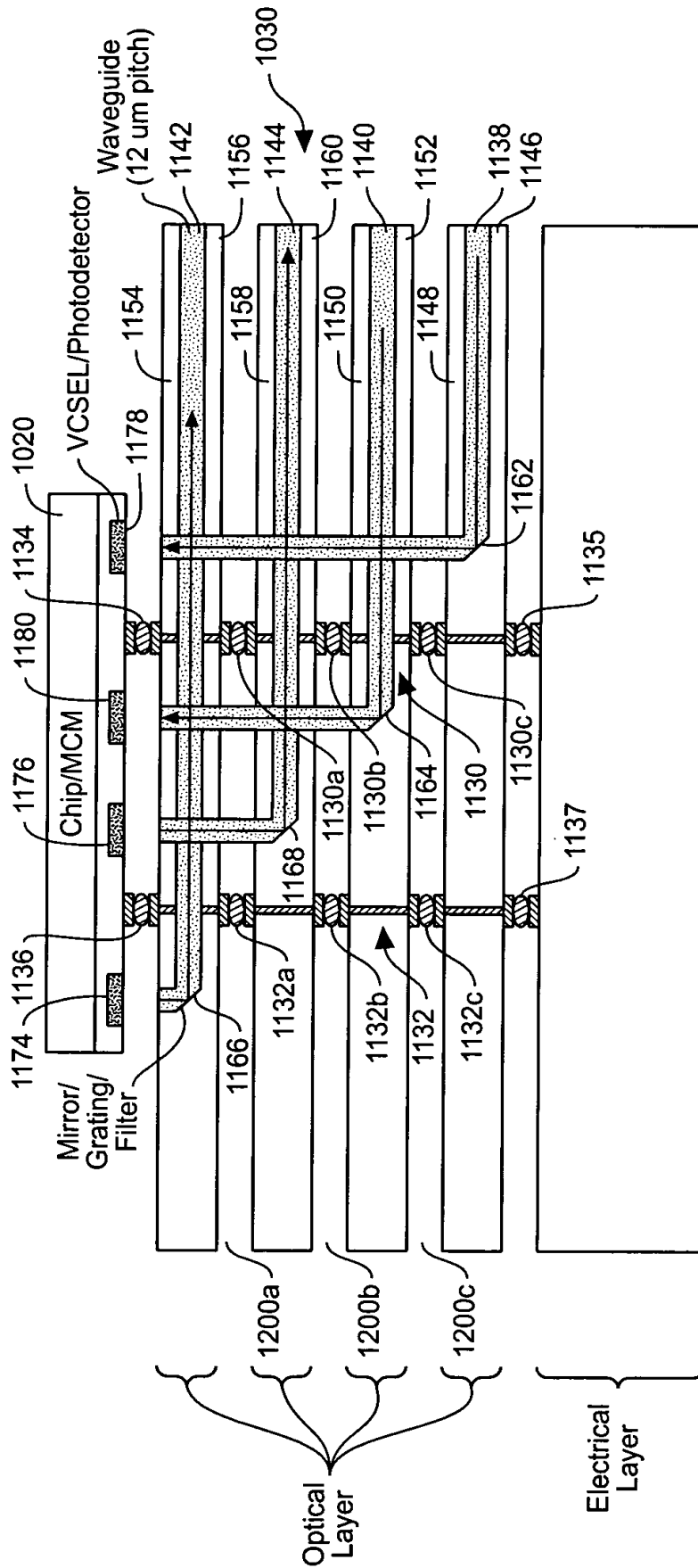


FIG. 186



Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]

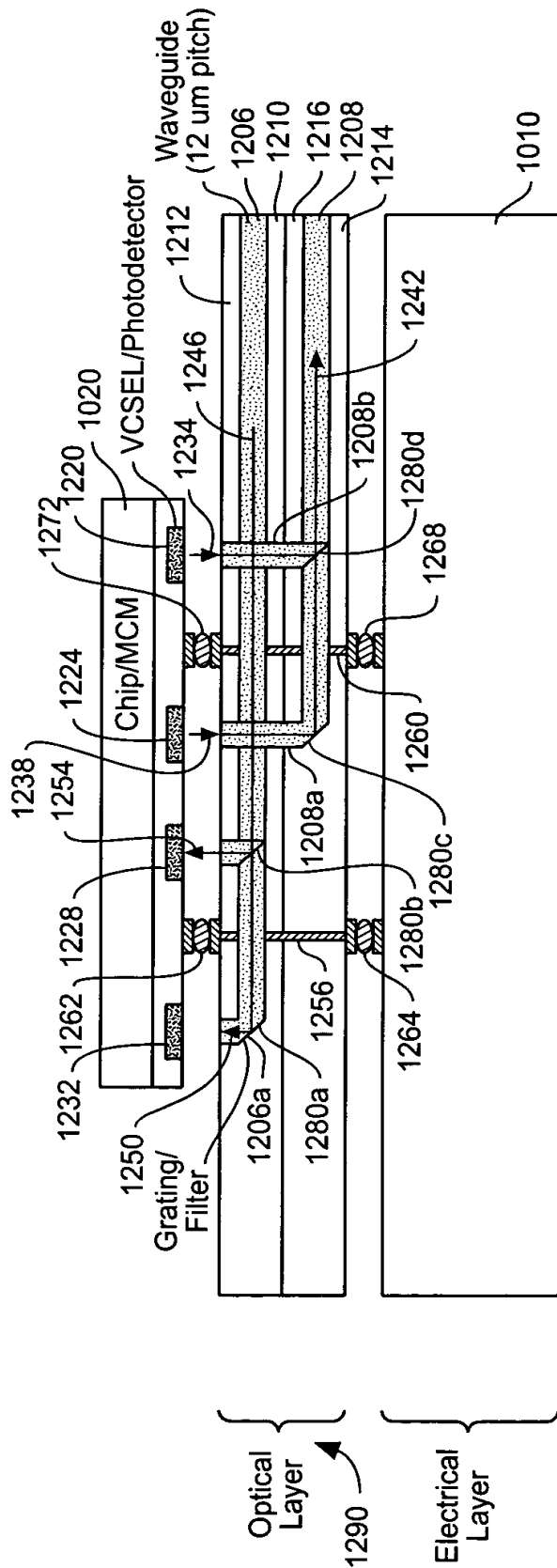


FIG. 187



Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]

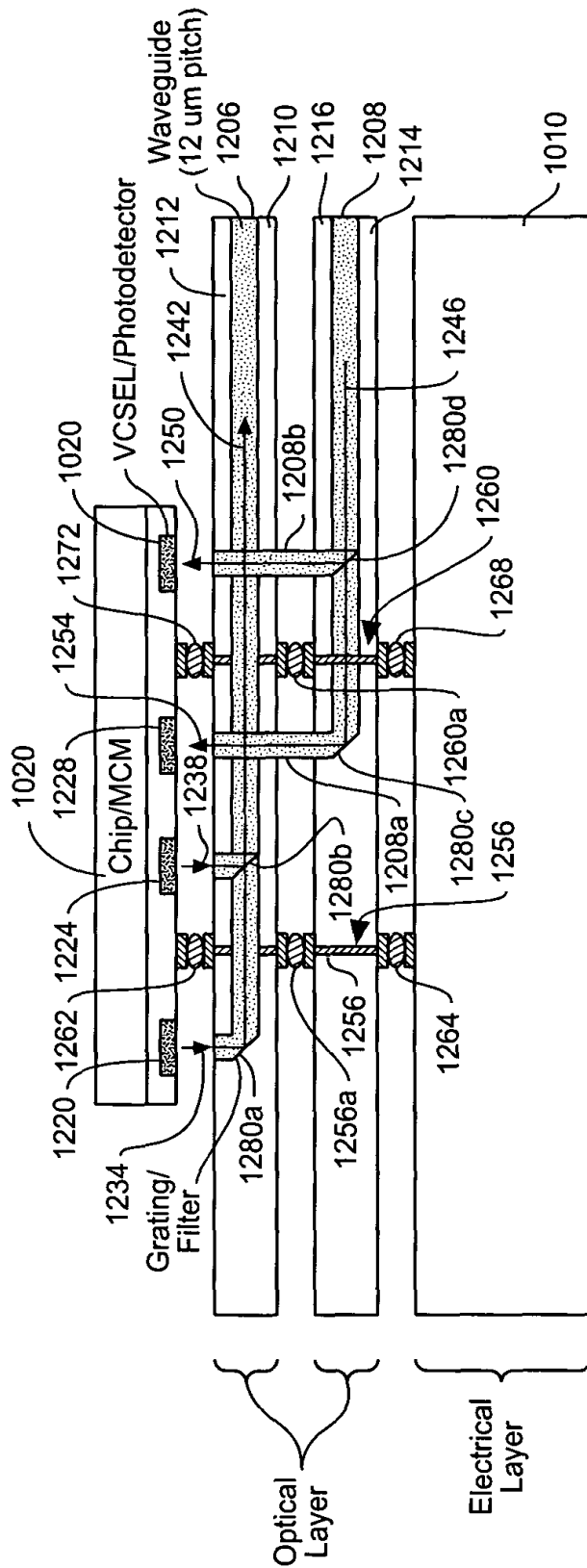


FIG. 188



Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]

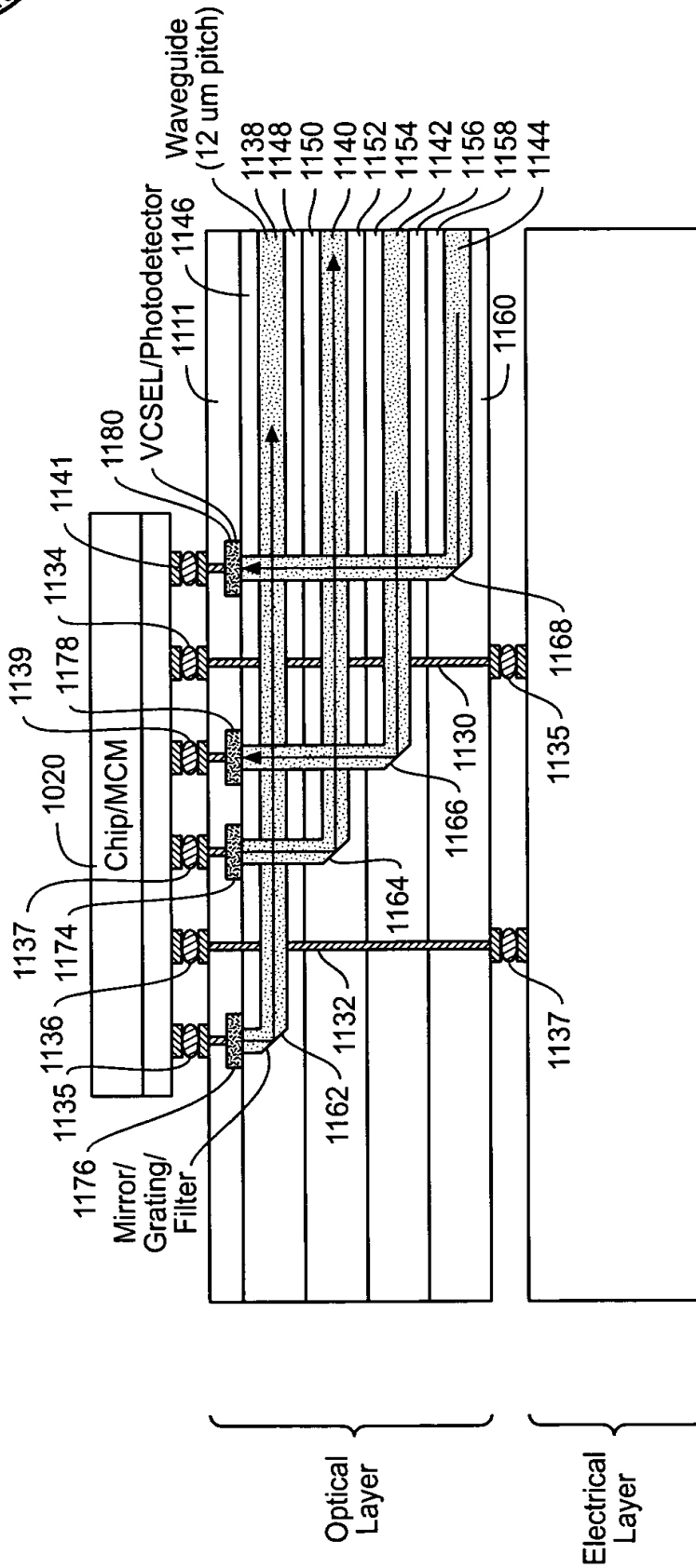


FIG. 189





Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]

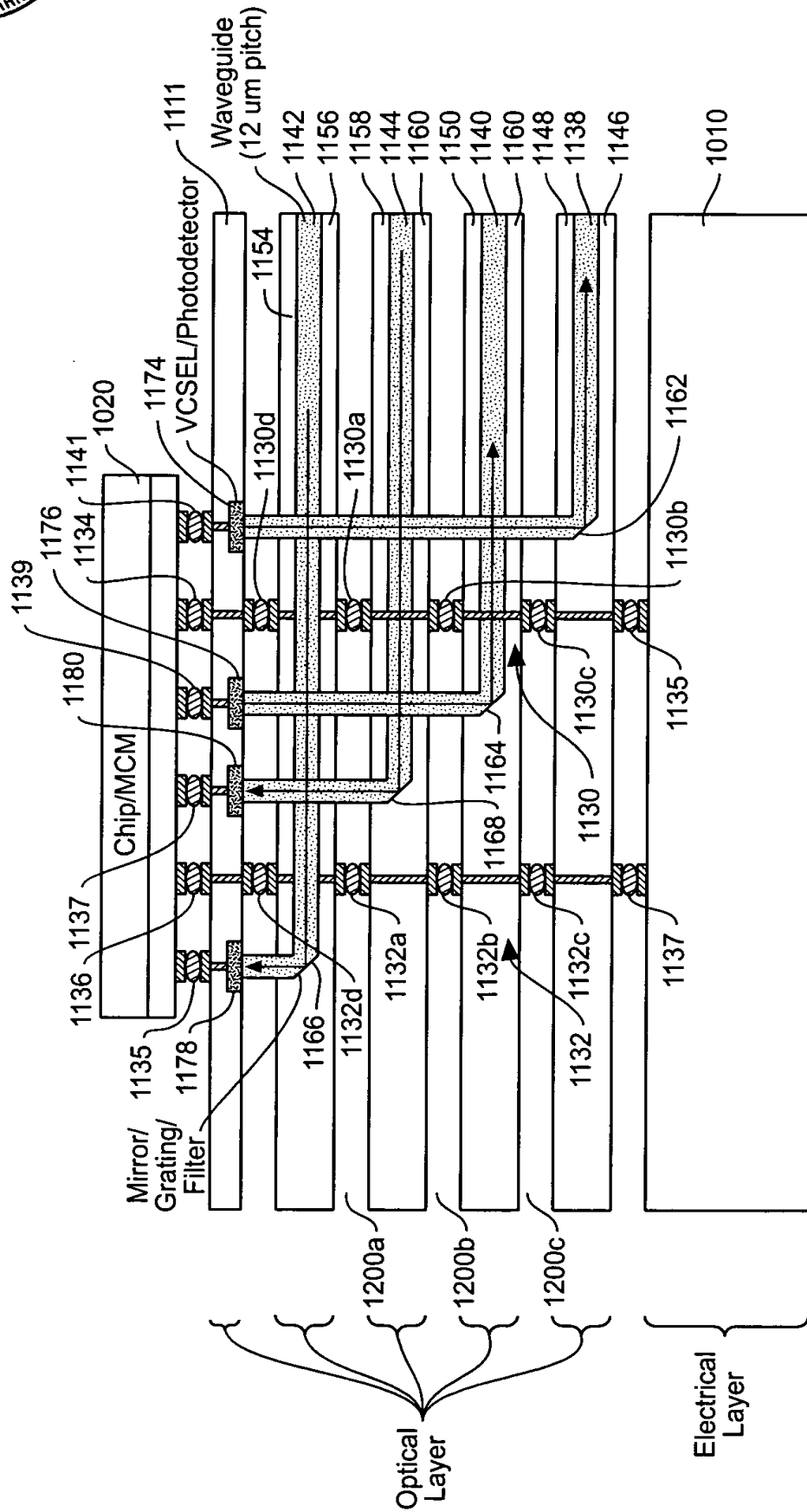
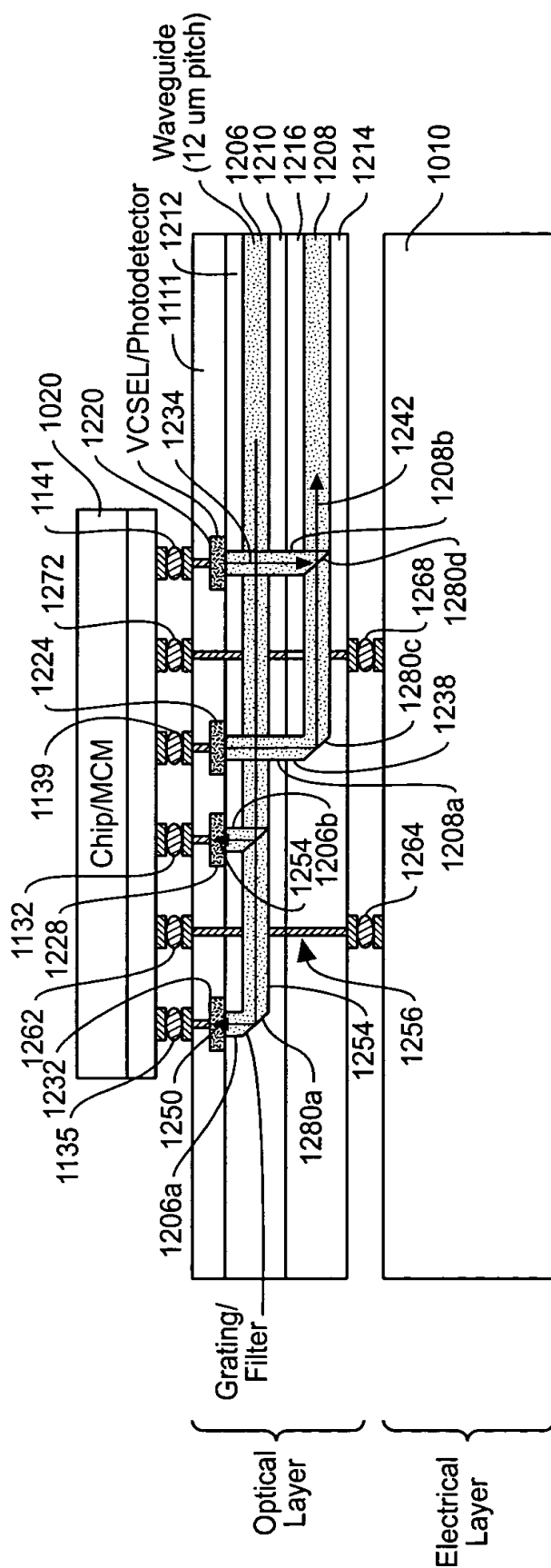


FIG. 190

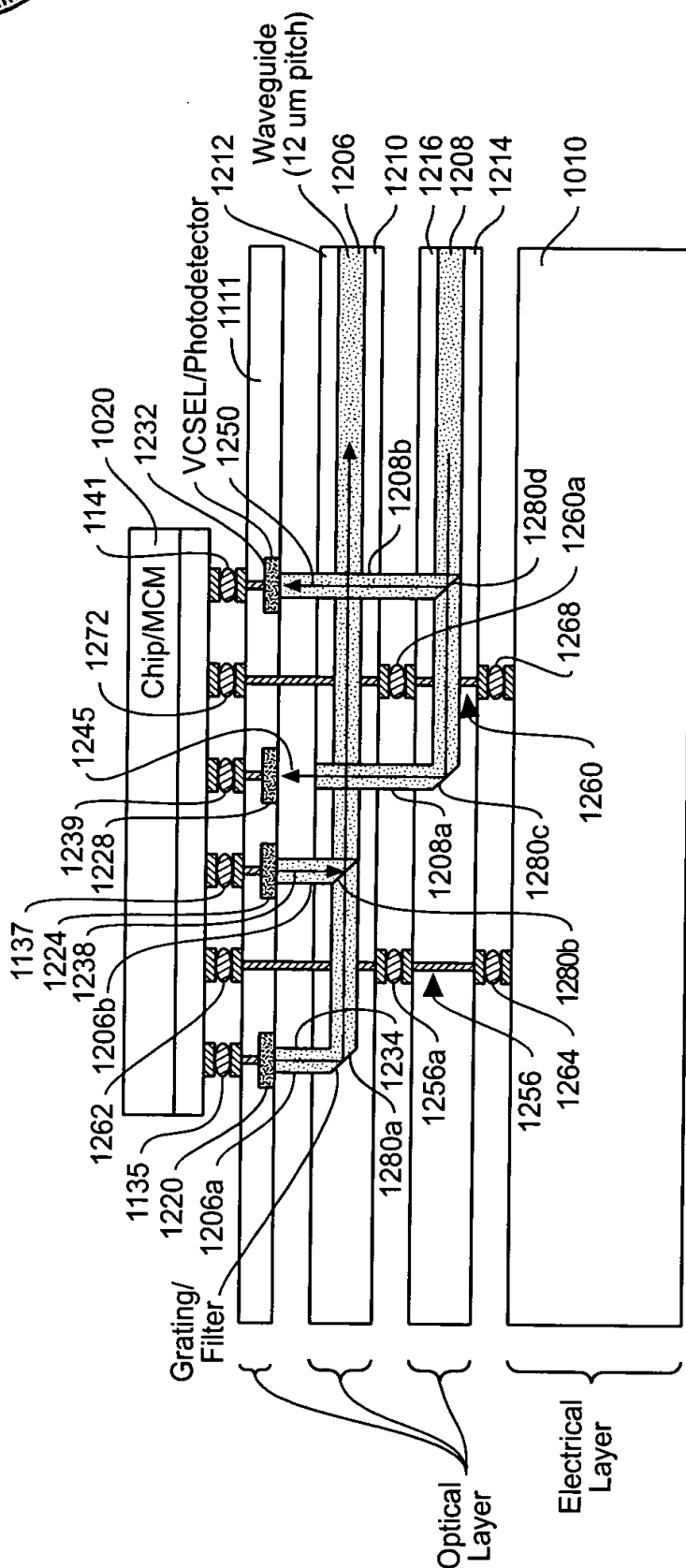


Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]



**FIG. 191A**

Signal I/O count: 6000 = [1500 I/O per Layer] x [4-Layer]



**FIG. 191B**

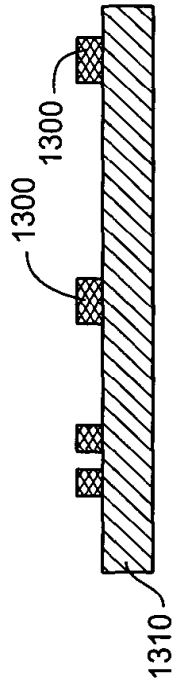


FIG. 193

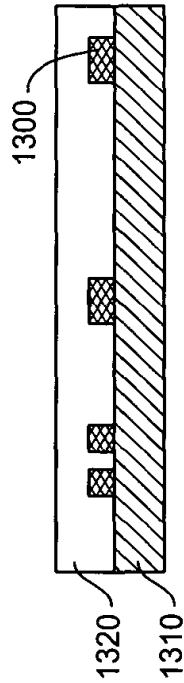


FIG. 195

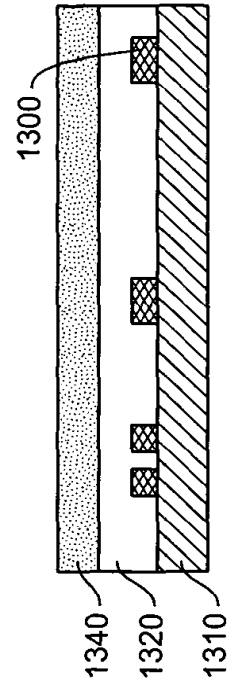


FIG. 197

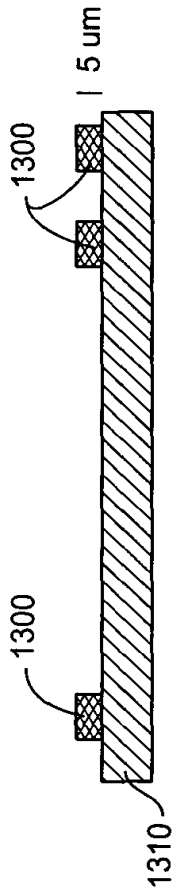


FIG. 192

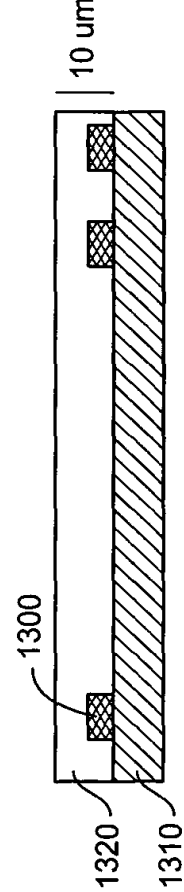


FIG. 194

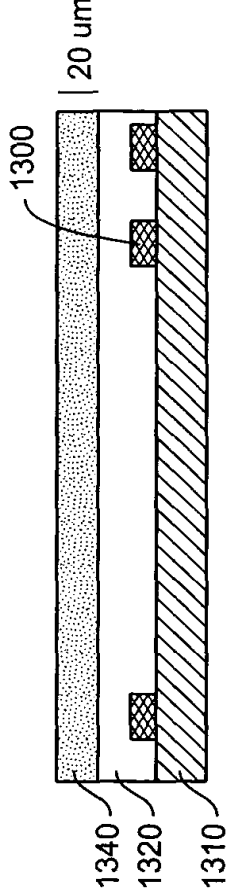
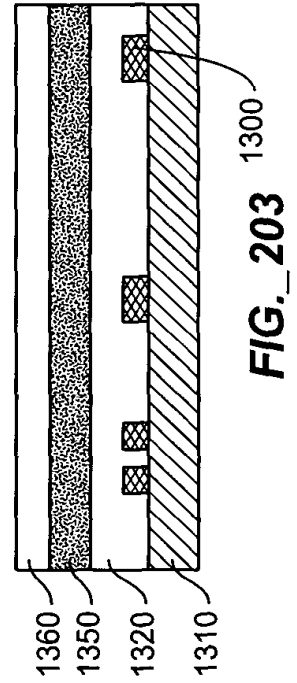
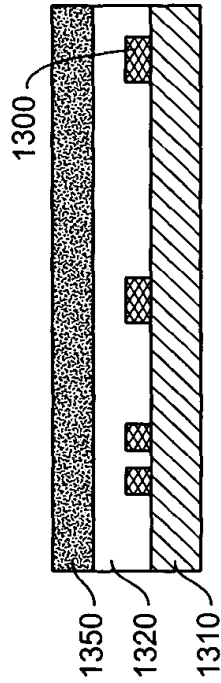
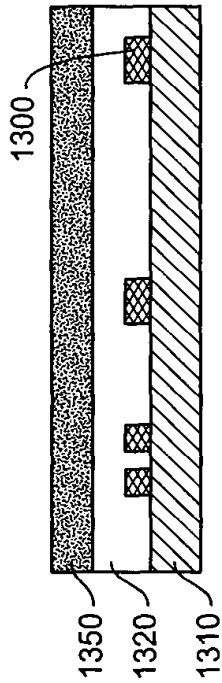
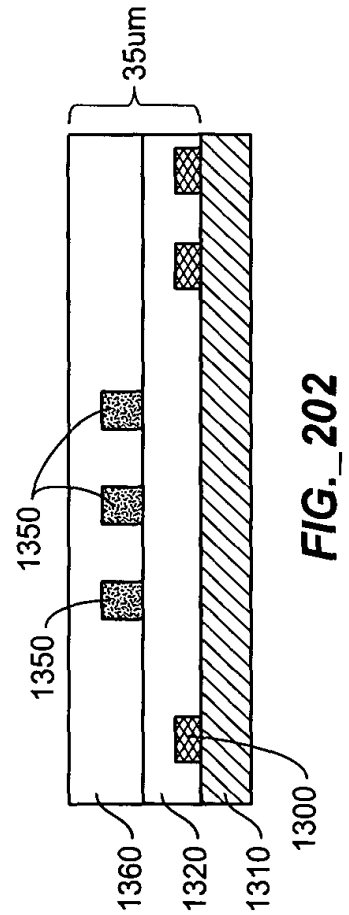
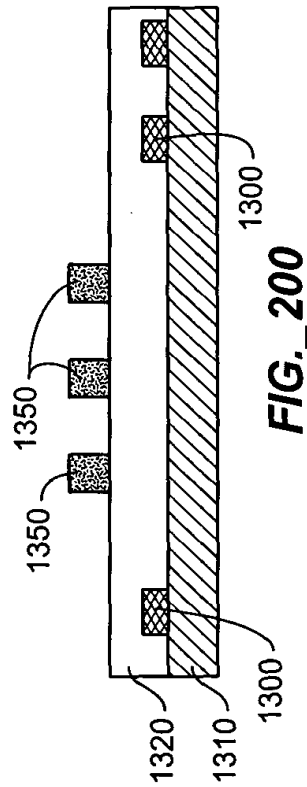
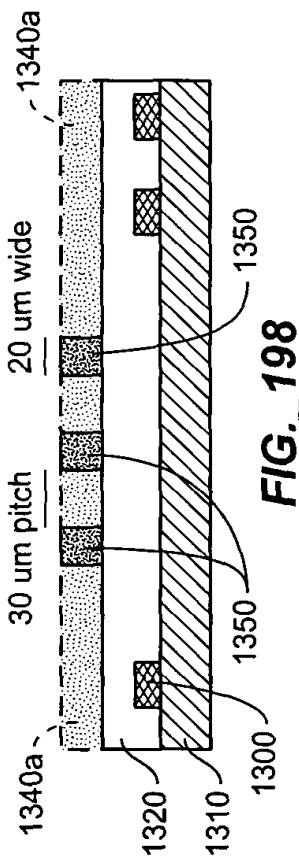


FIG. 196



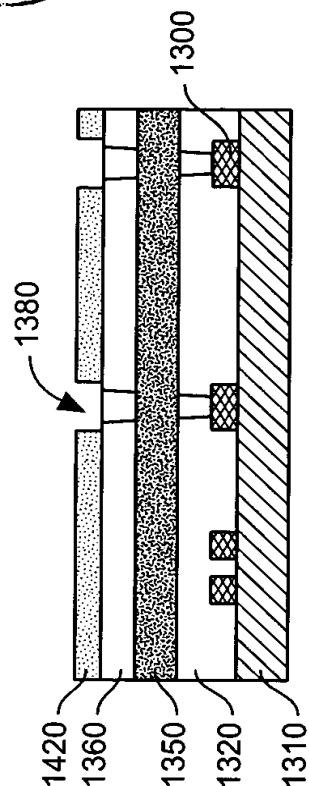


FIG. 205

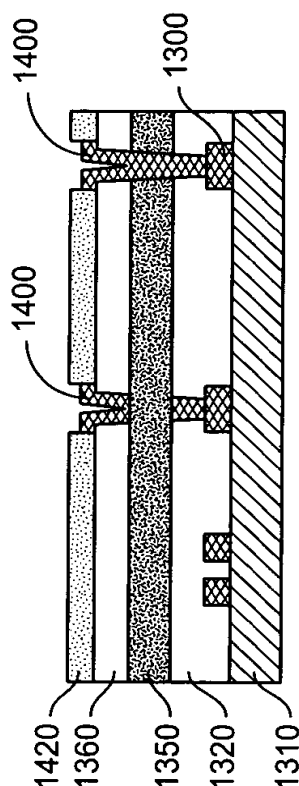


FIG. 207

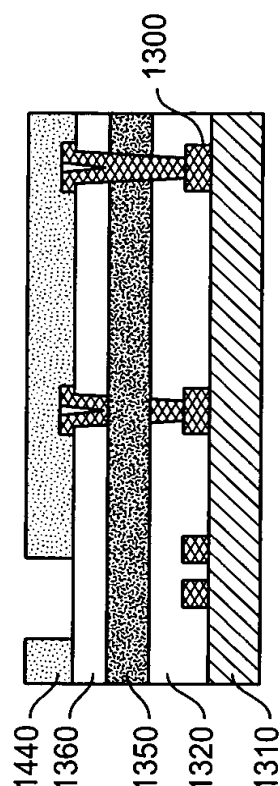


FIG. 209

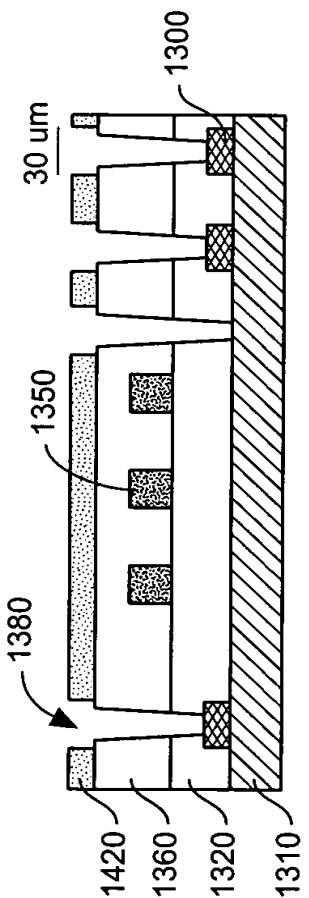


FIG. 204

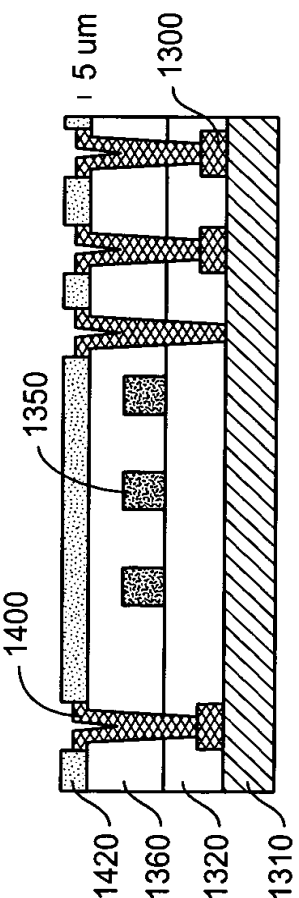


FIG. 206

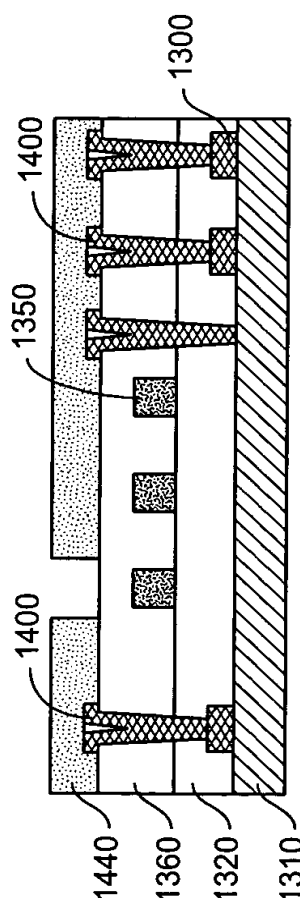
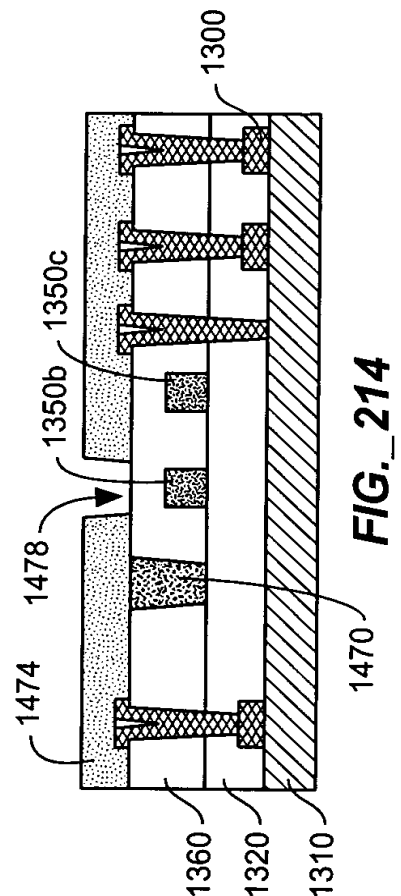
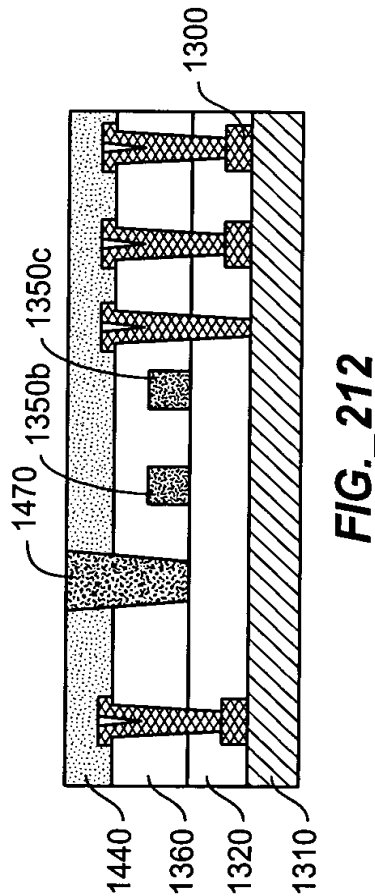
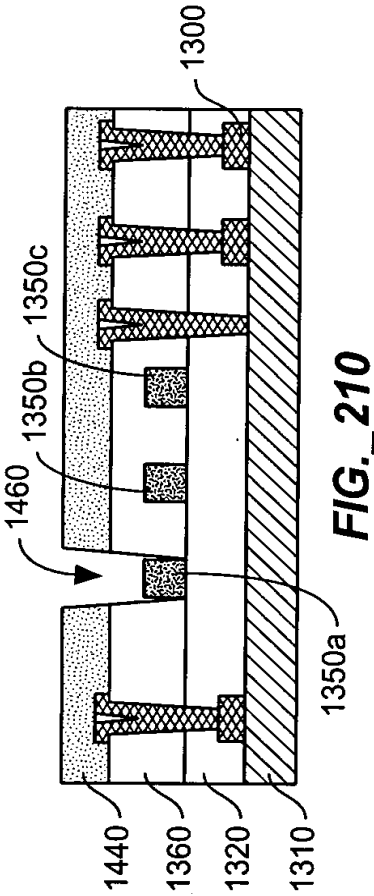
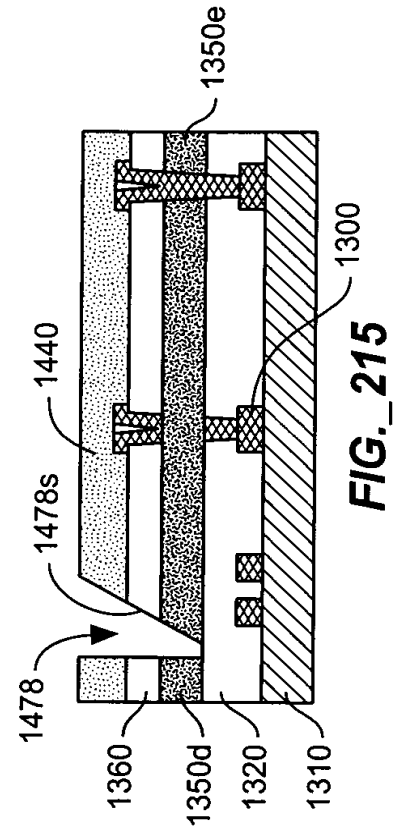
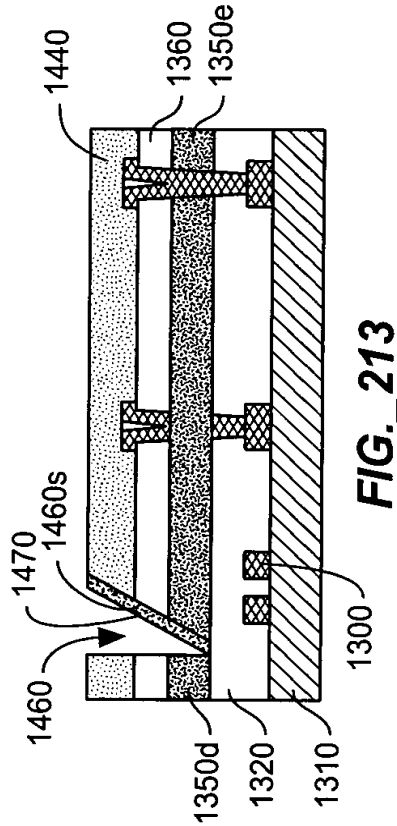
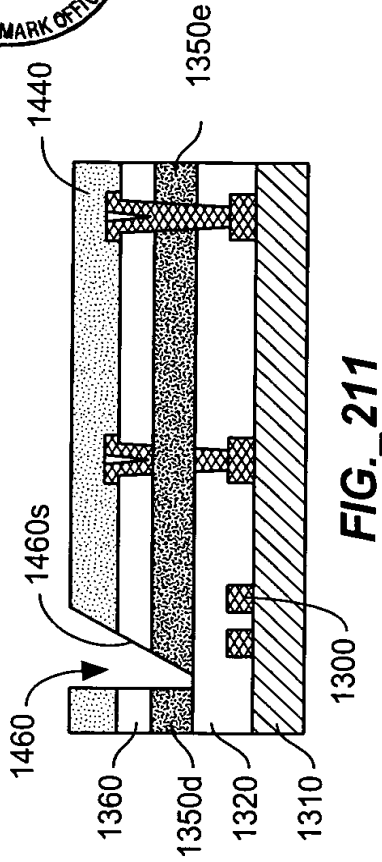
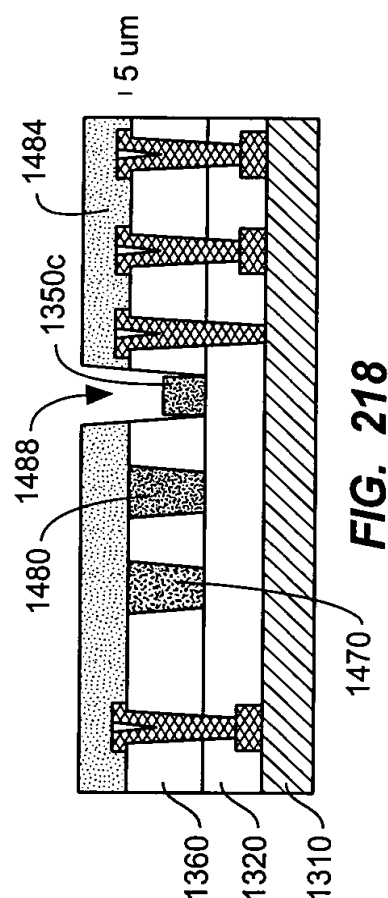
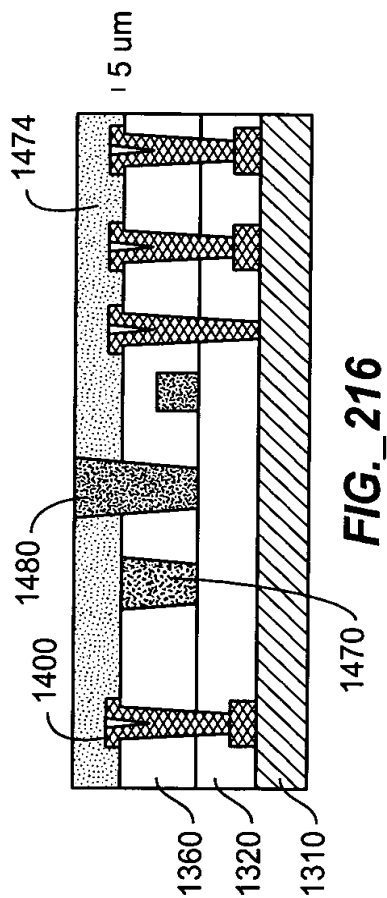
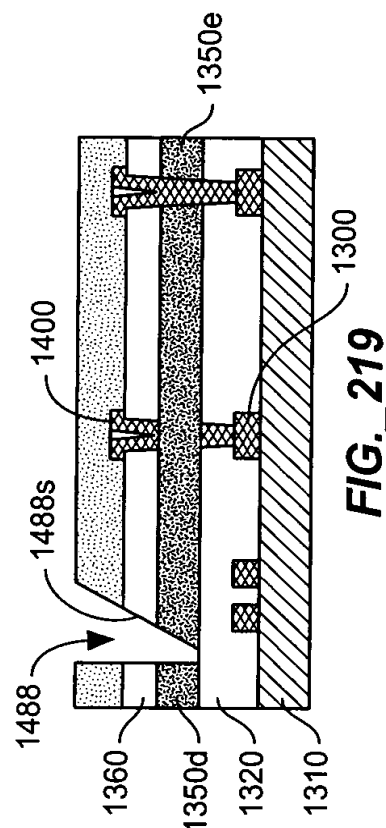
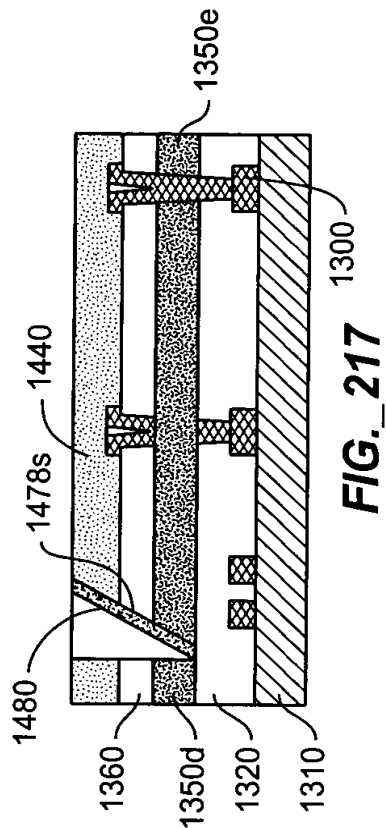


FIG. 208

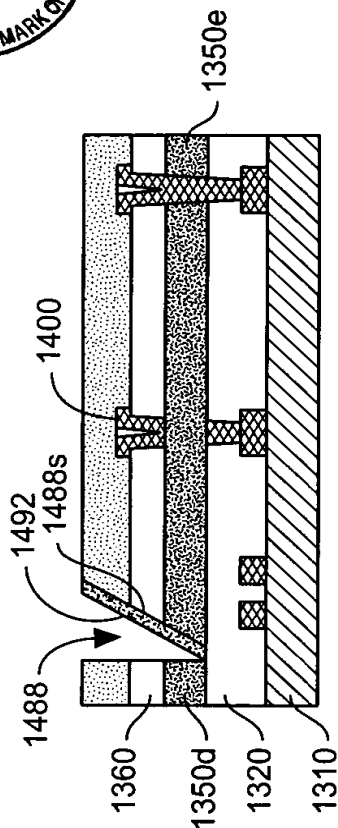




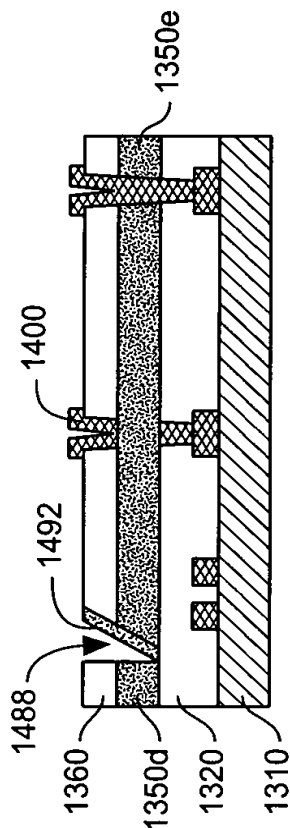




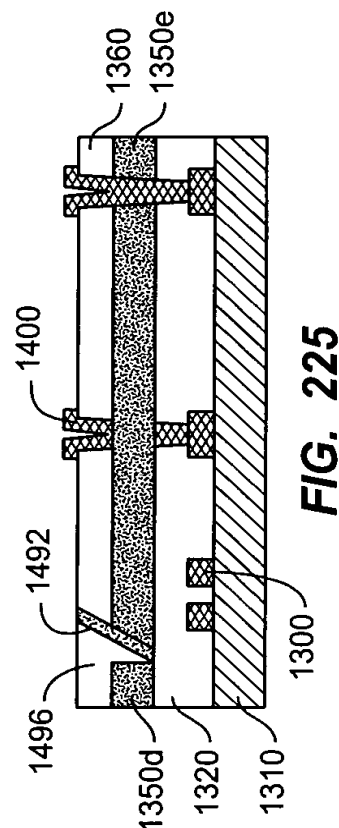
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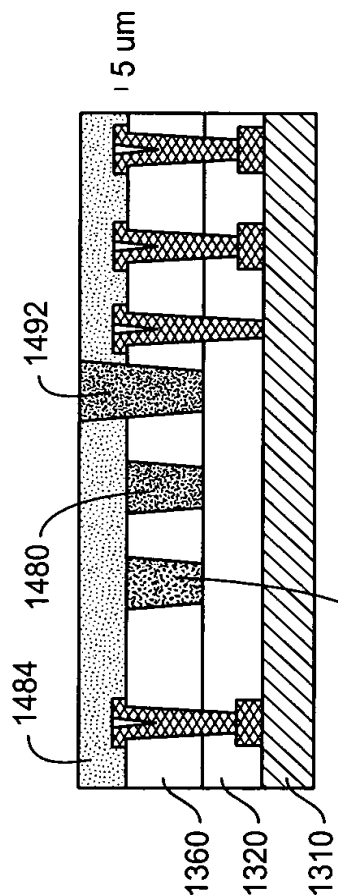
**FIG. 221**



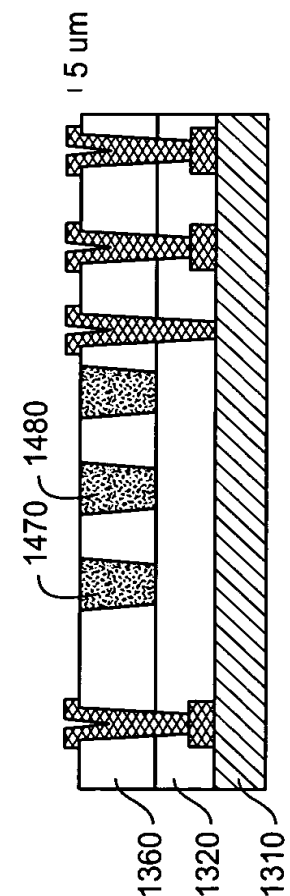
**FIG. 223**



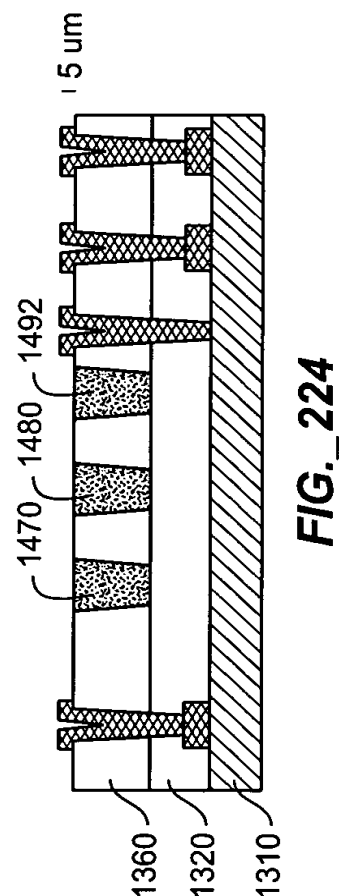
**FIG. 225**



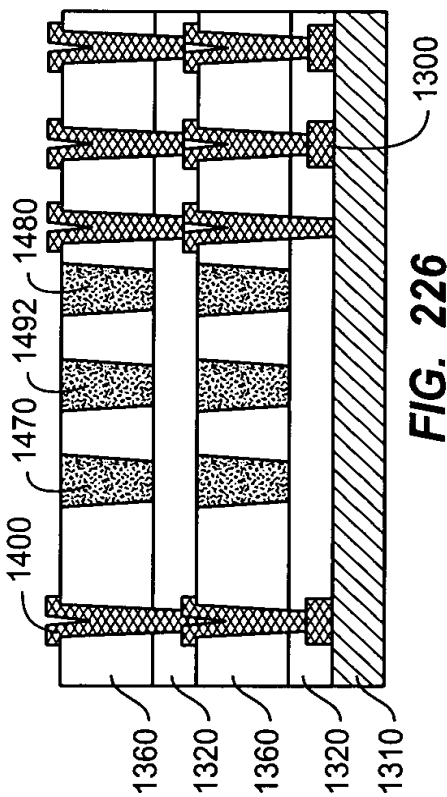
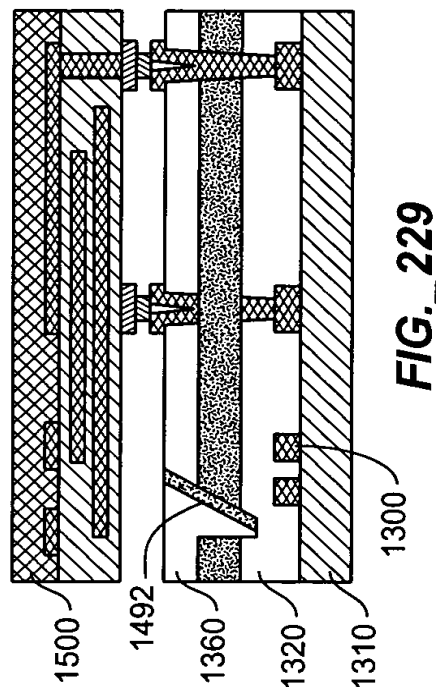
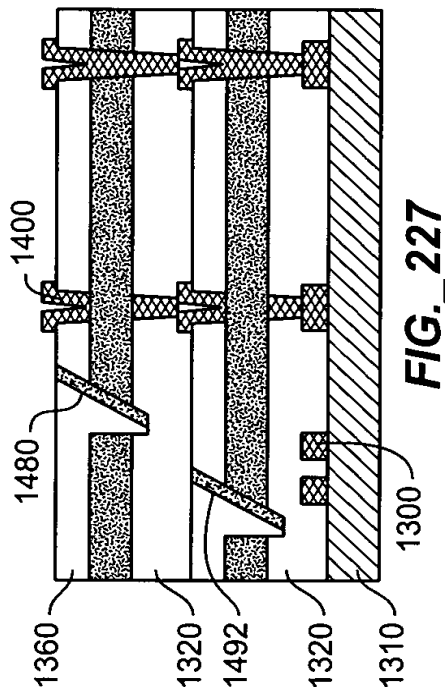
**FIG. 220**



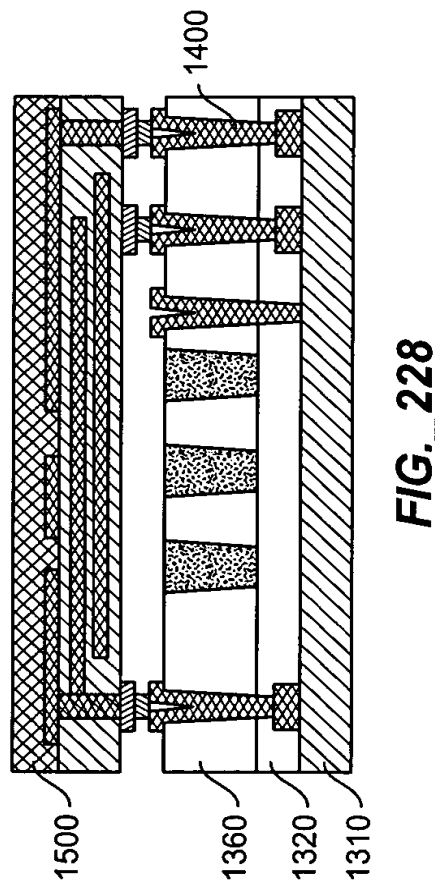
**FIG. 222**

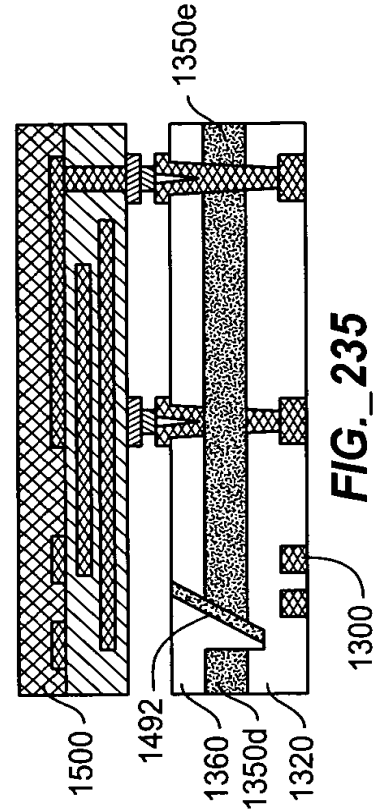
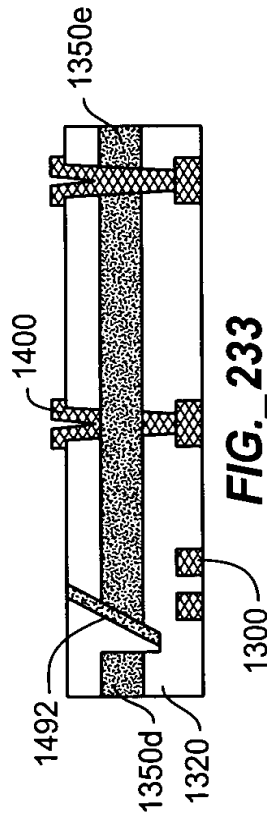
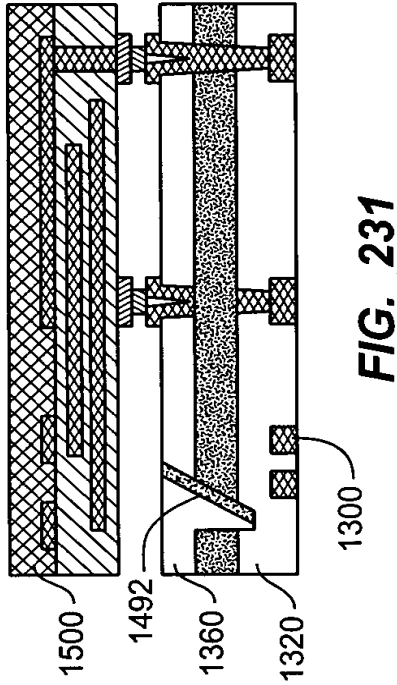
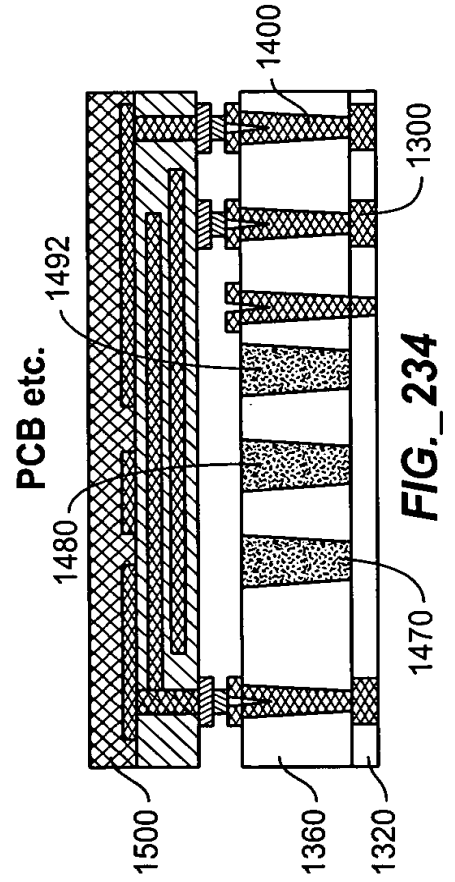
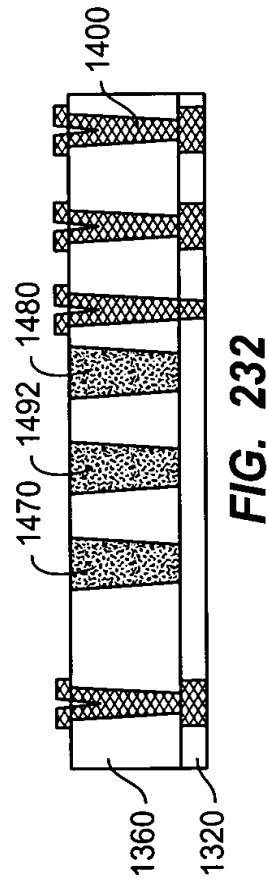
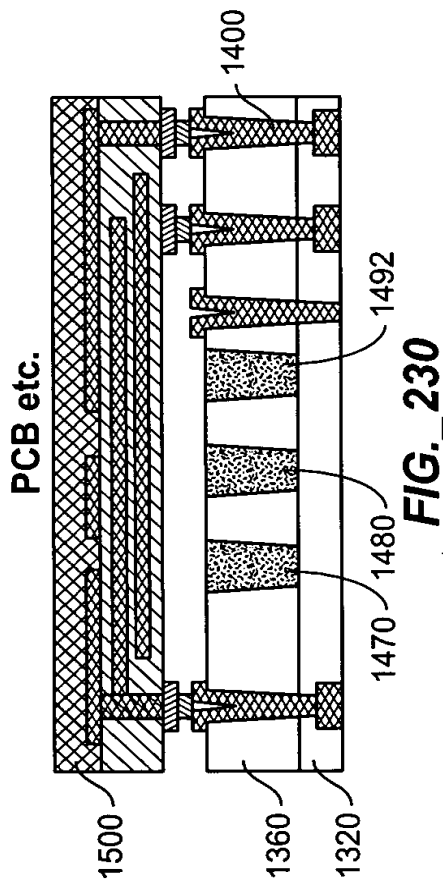


**FIG. 224**



PCB etc.







PCB etc.

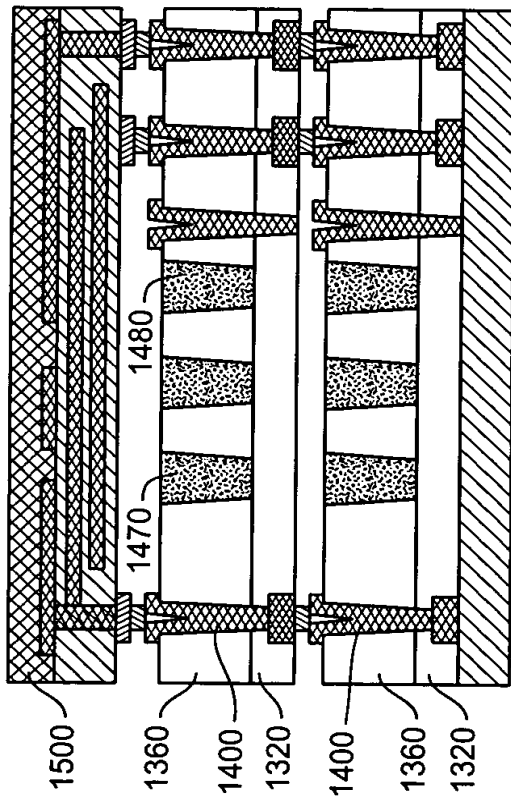


FIG. 236

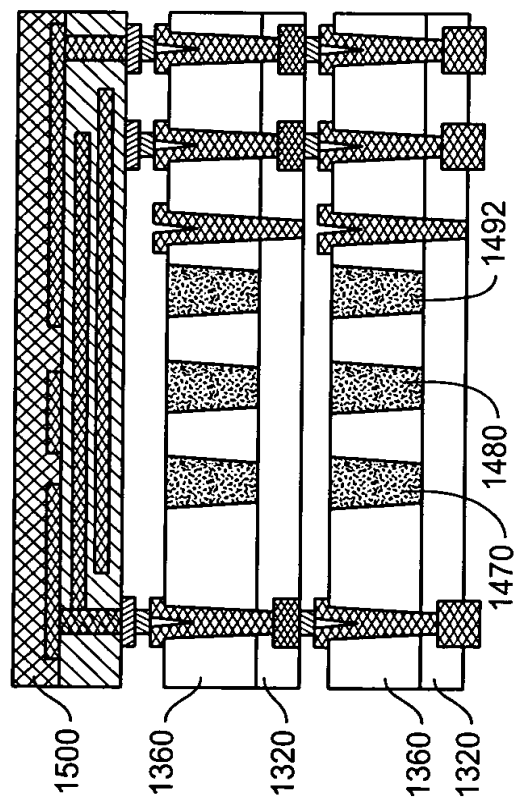


FIG. 238

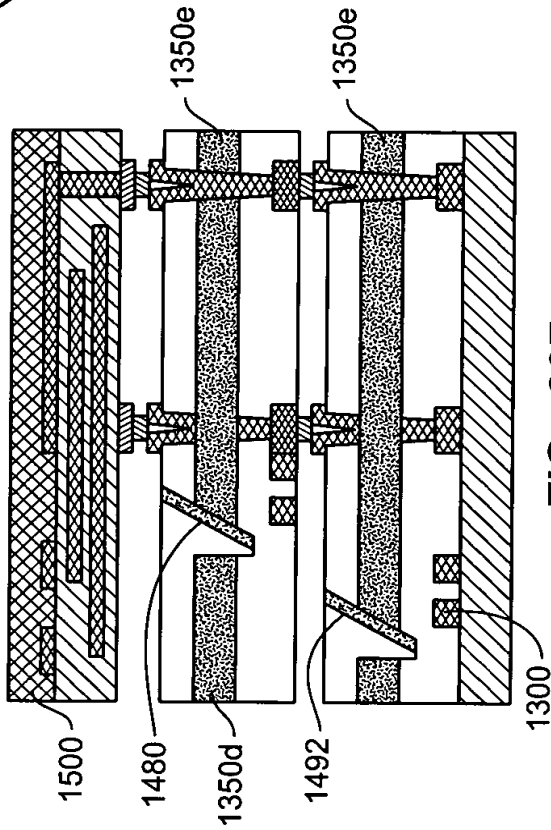


FIG. 237

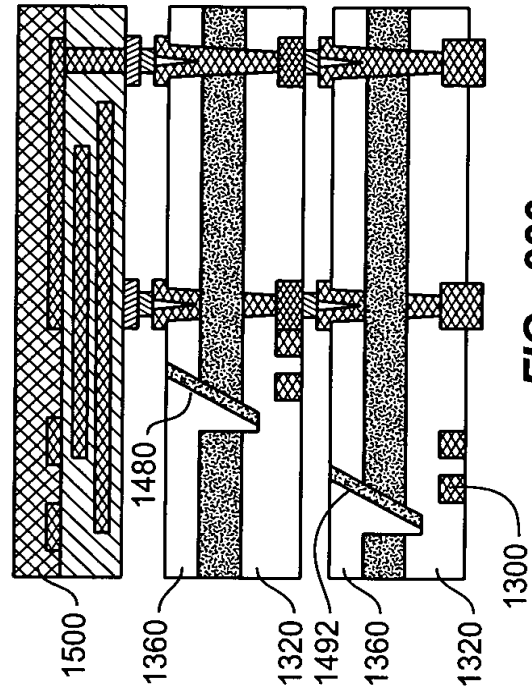


FIG. 239

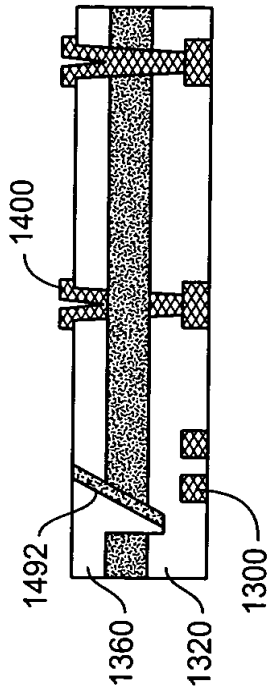


FIG. 241

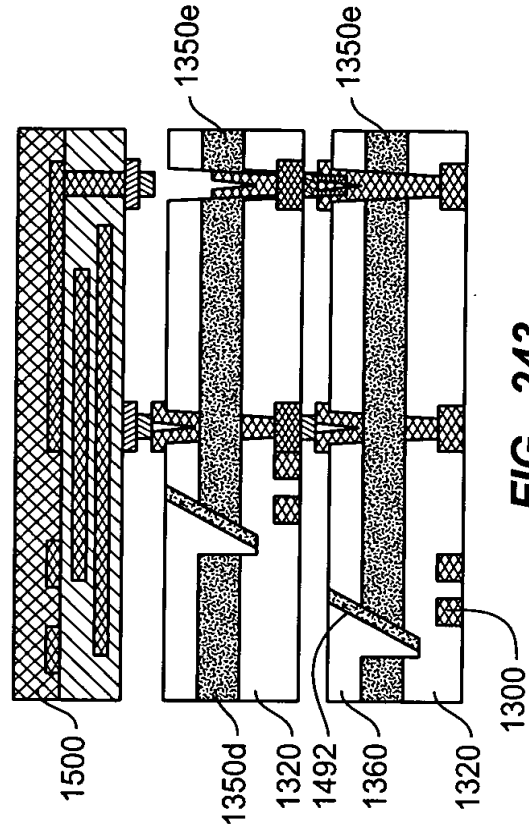


FIG. 243

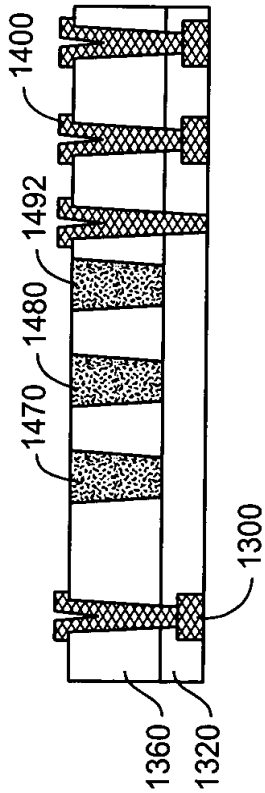


FIG. 240

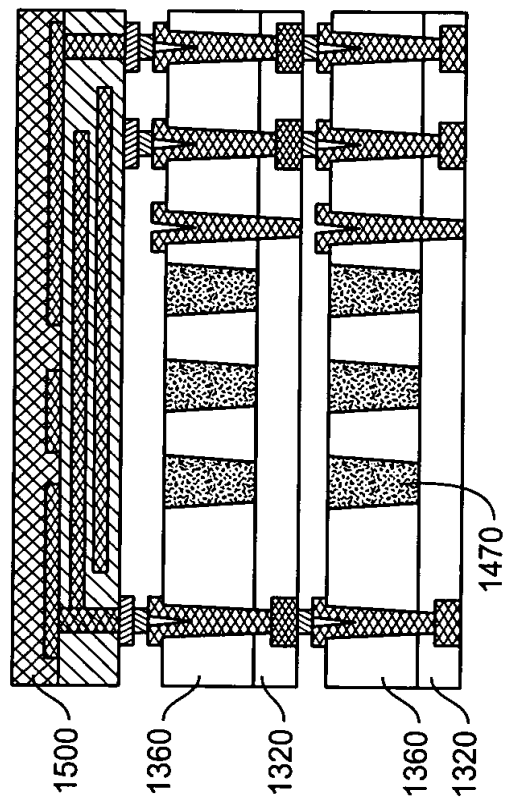


FIG. 242

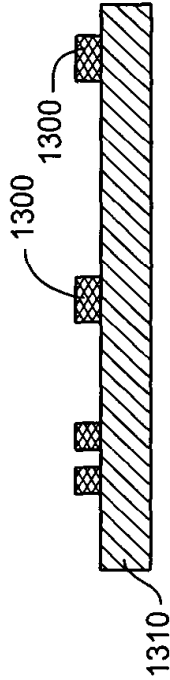


FIG. 245

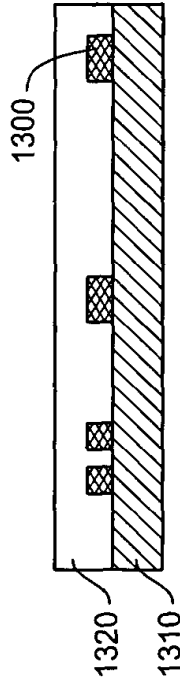


FIG. 247

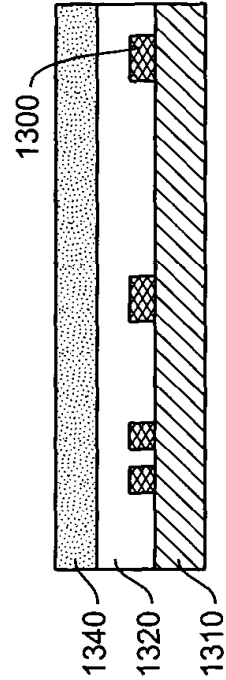


FIG. 249

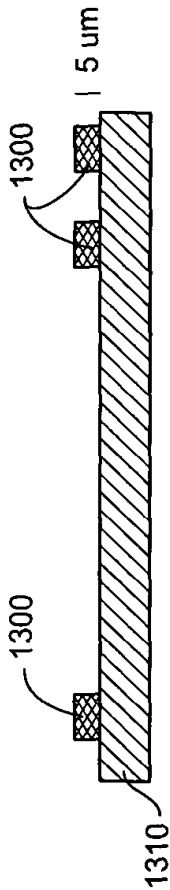


FIG. 244

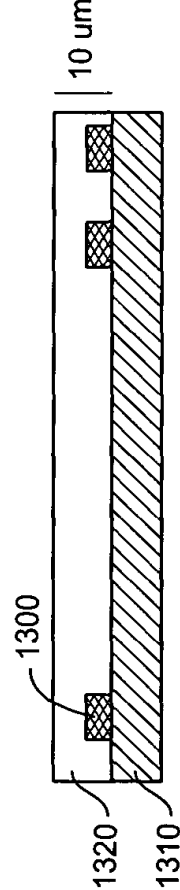


FIG. 246

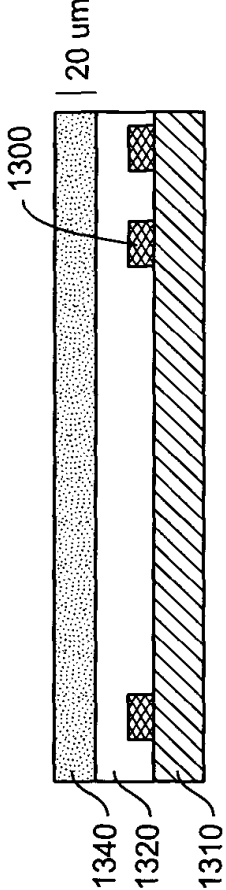
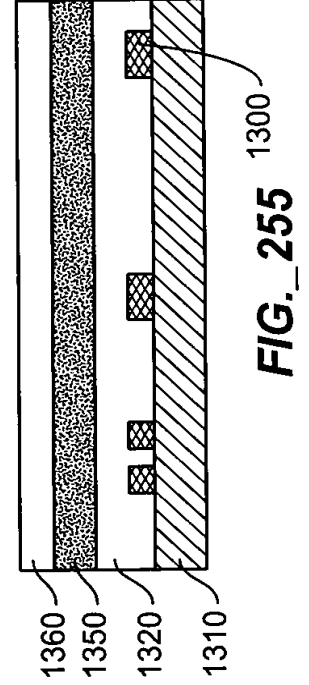
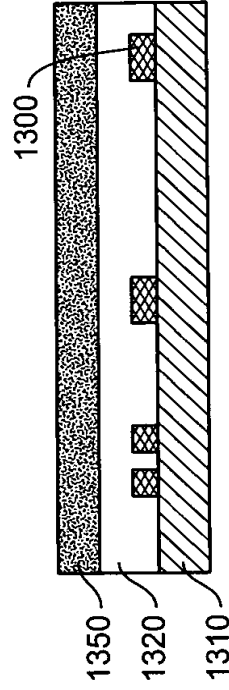
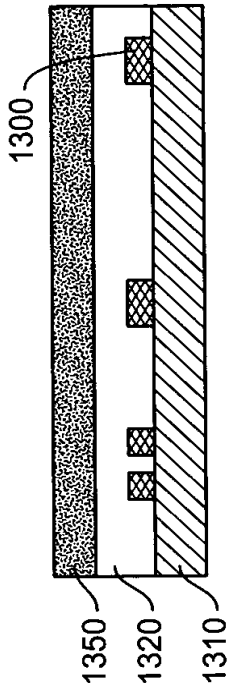
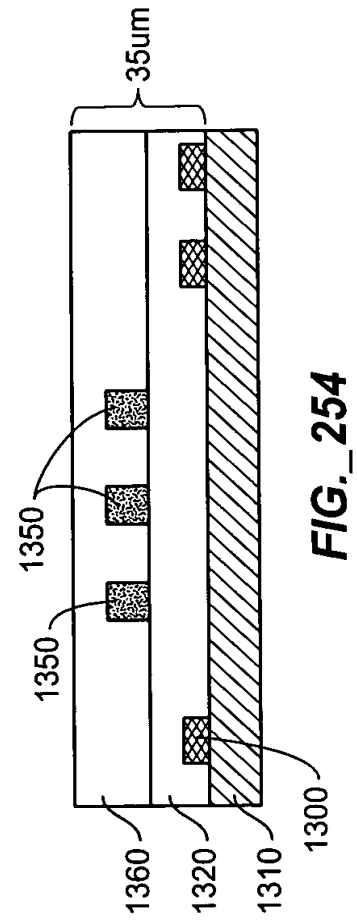
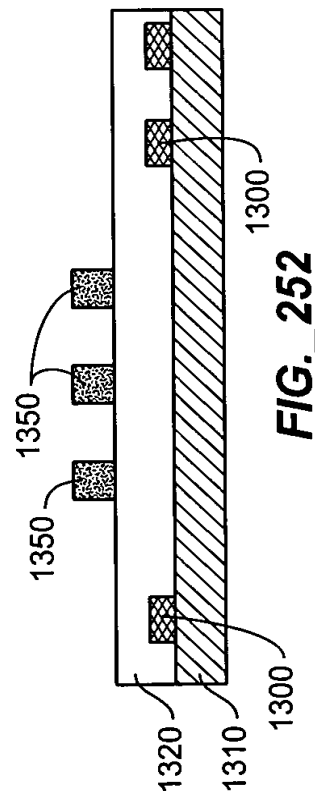
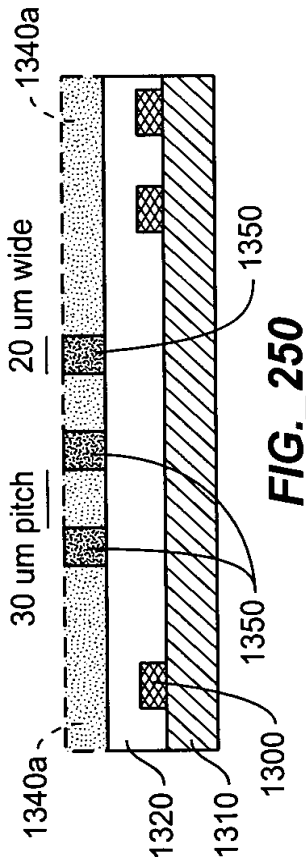


FIG. 248



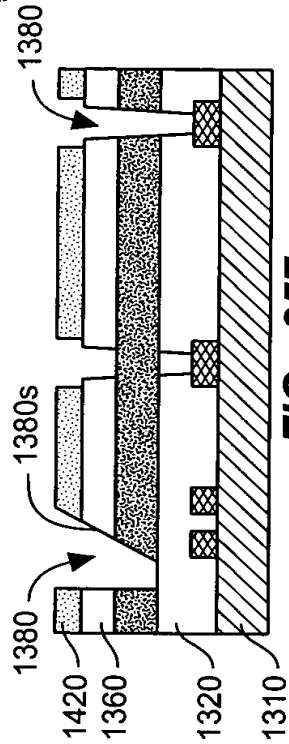


FIG. 257

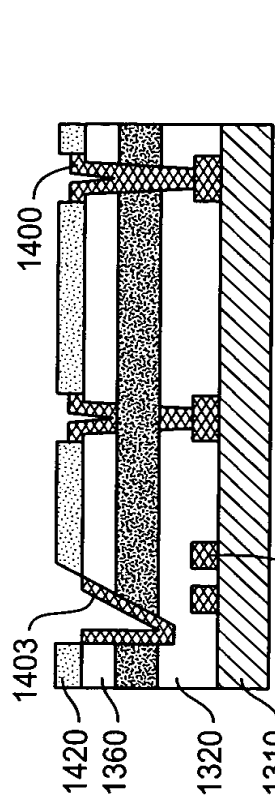


FIG. 259

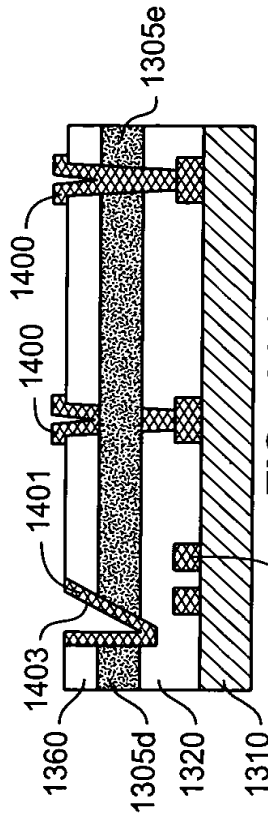


FIG. 261

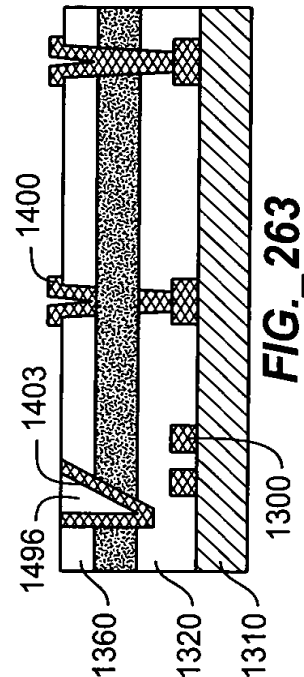


FIG. 263

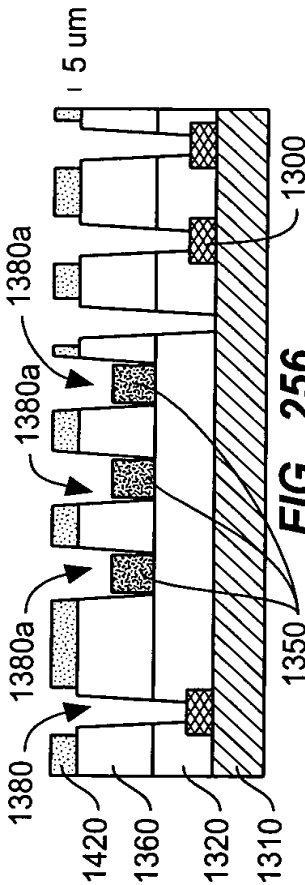


FIG. 256

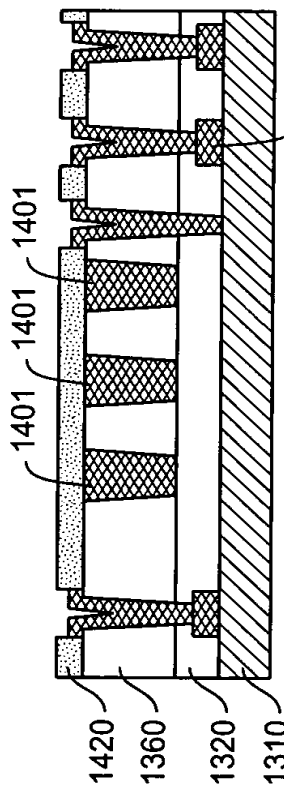


FIG. 258

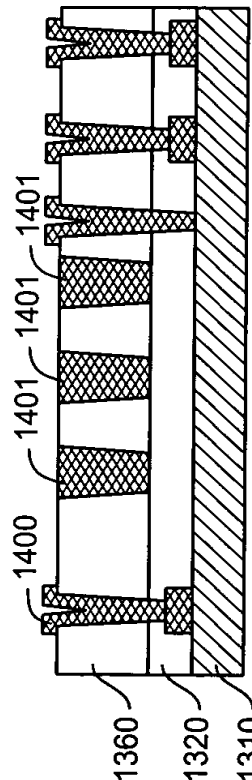


FIG. 260

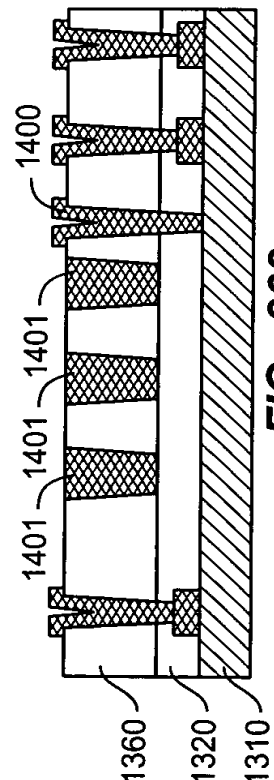
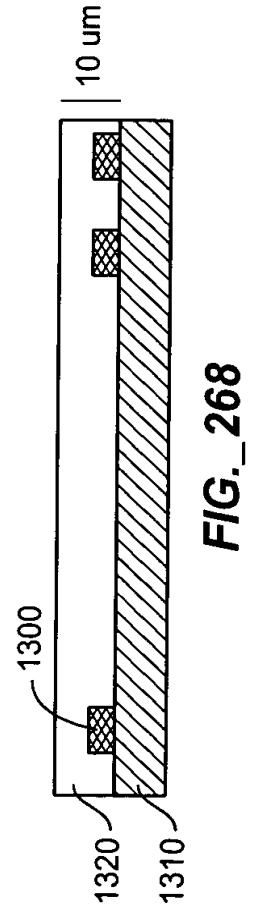
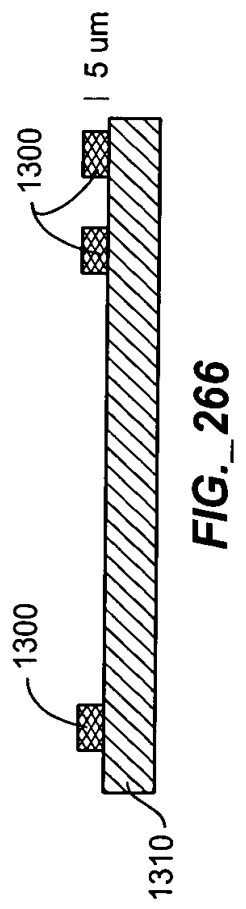
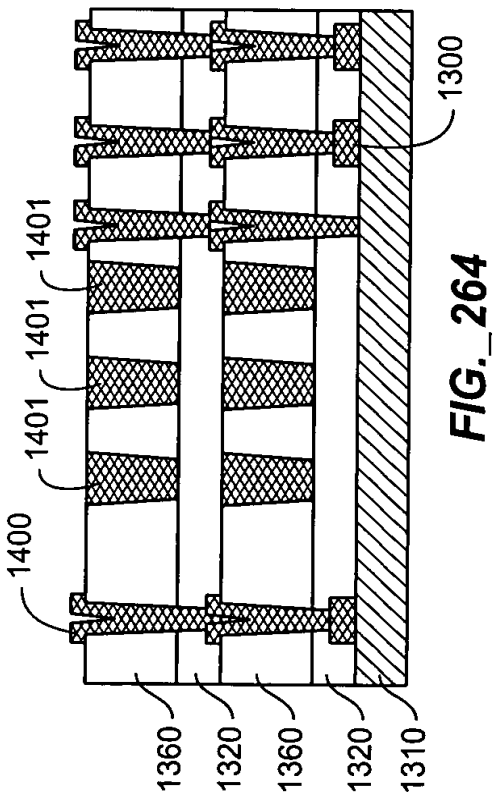
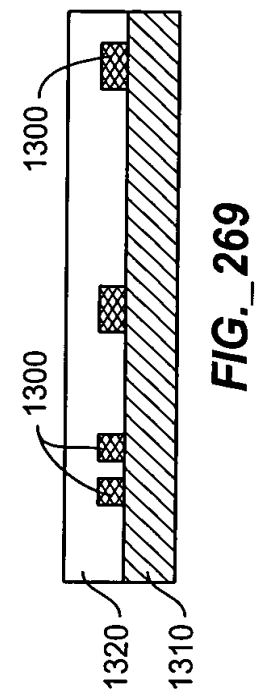
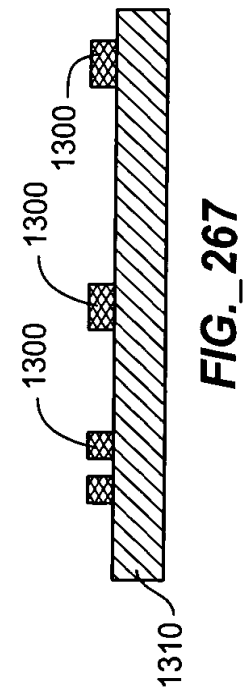
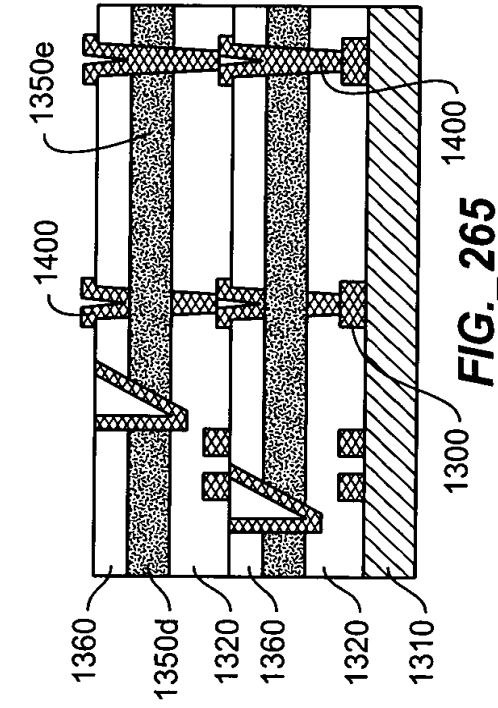
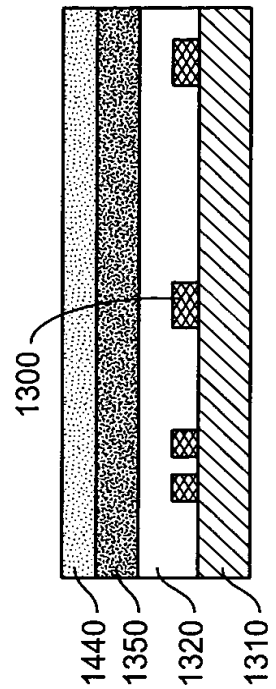
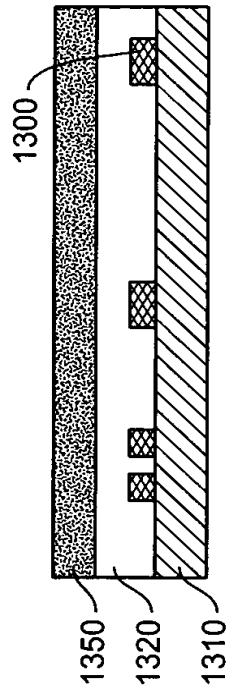
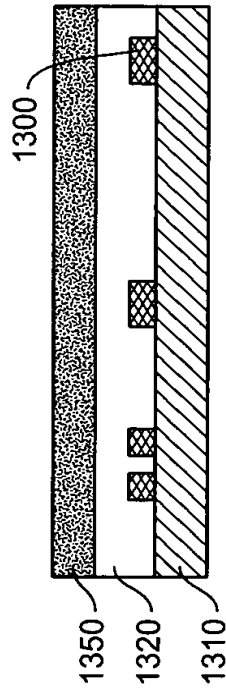
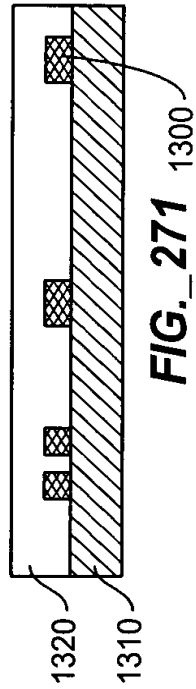
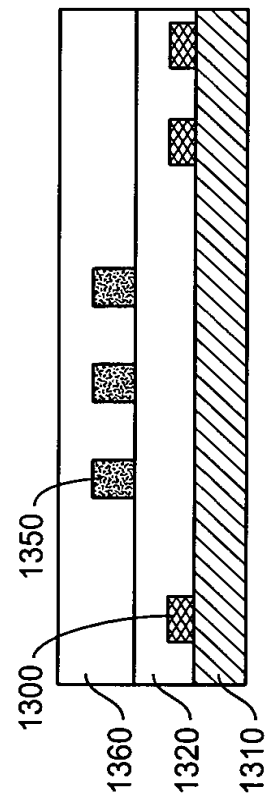
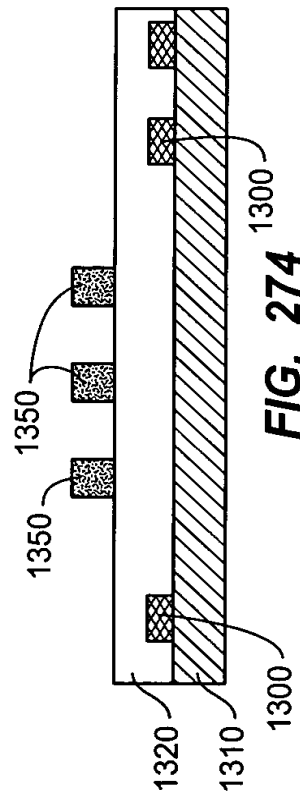
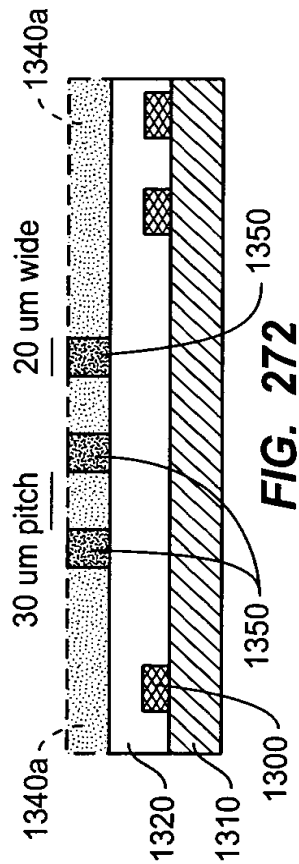
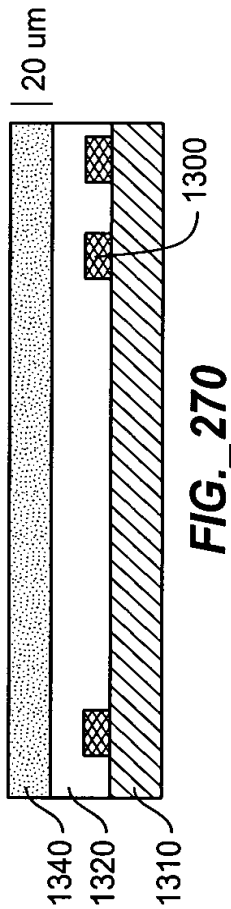
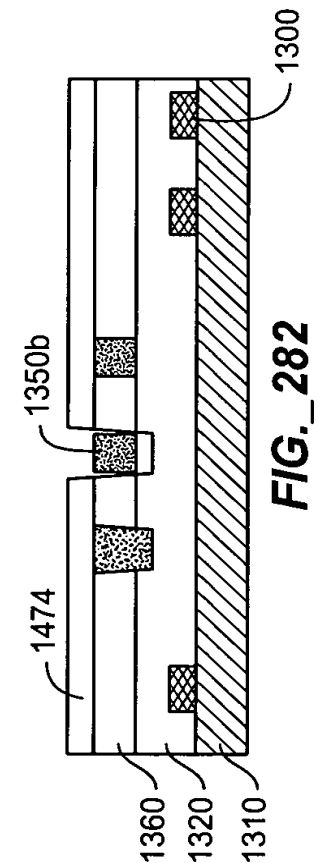
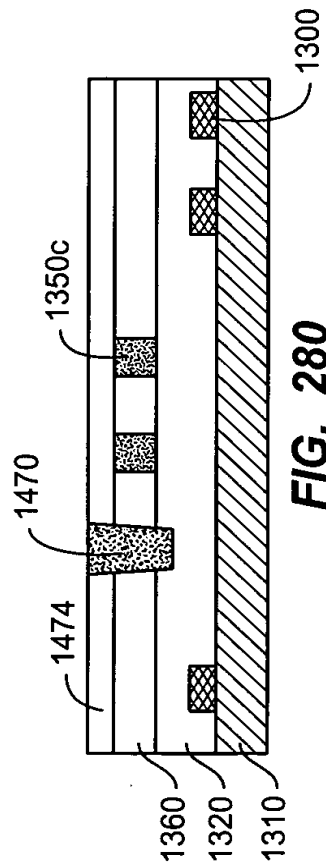
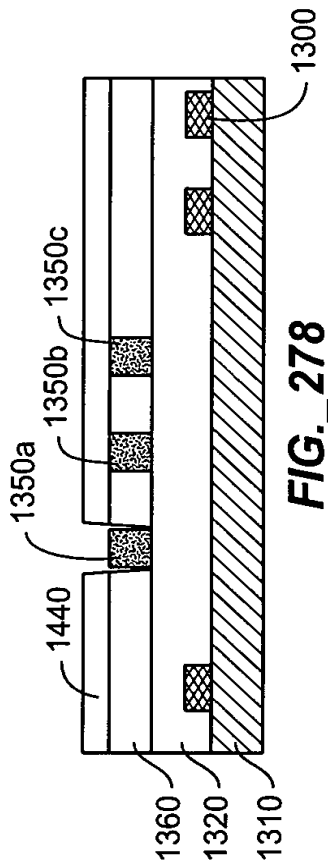
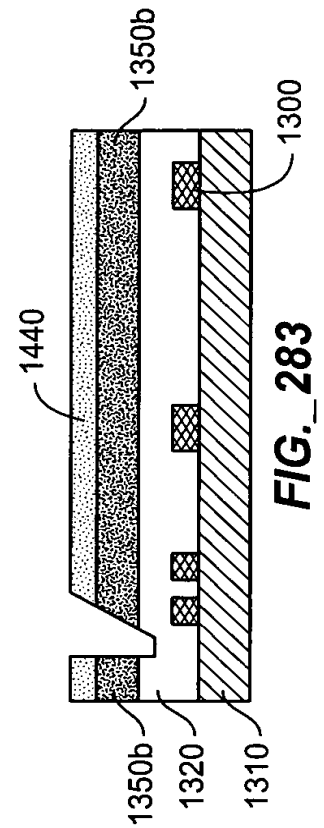
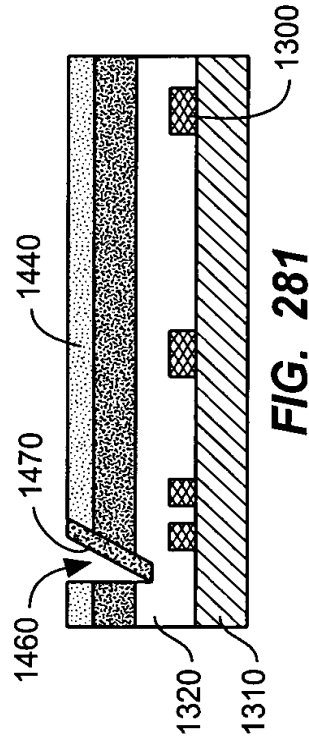
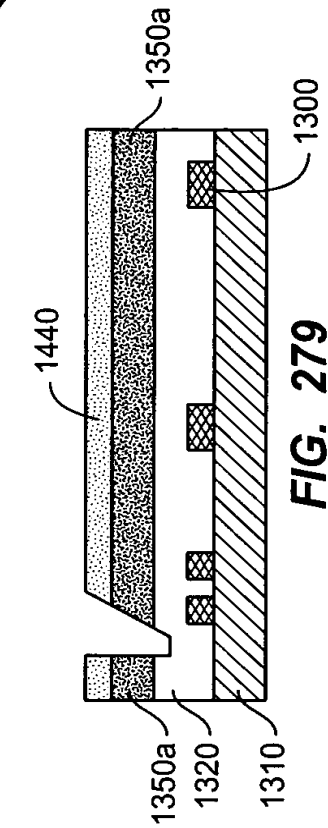


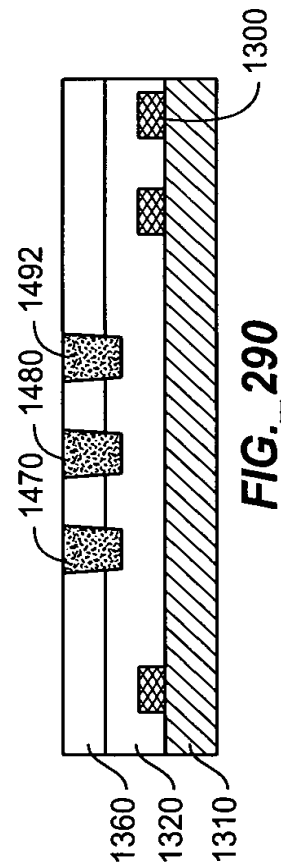
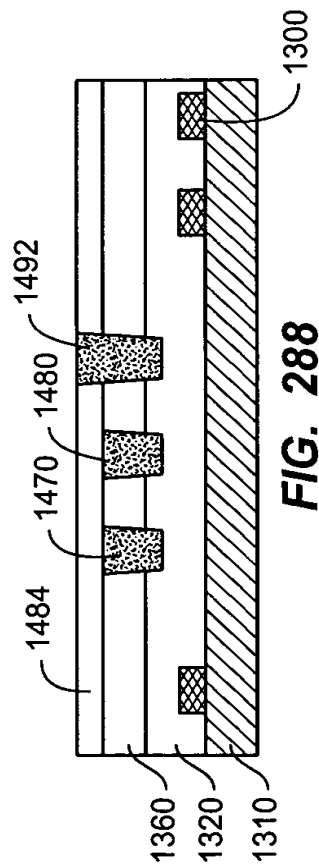
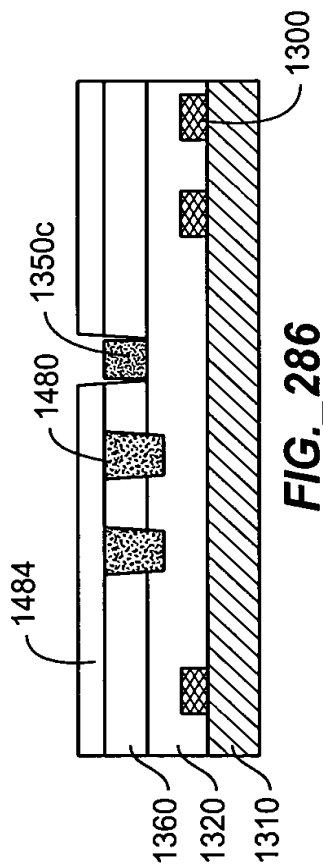
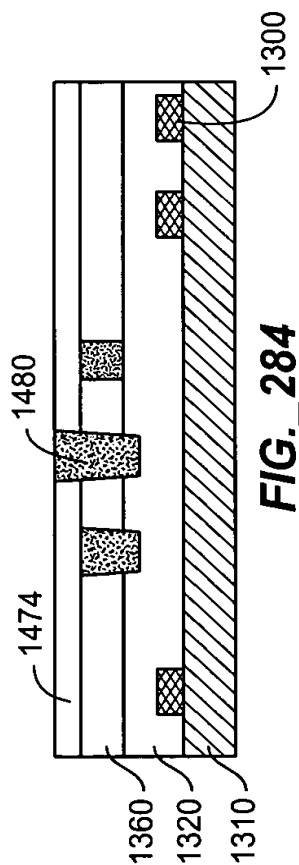
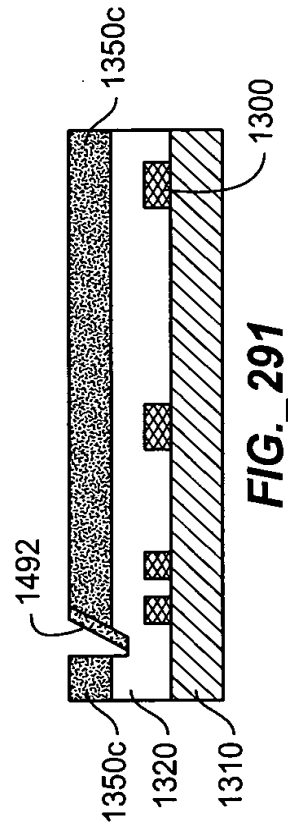
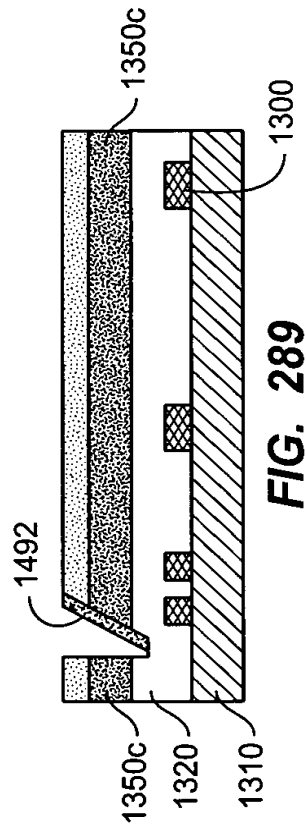
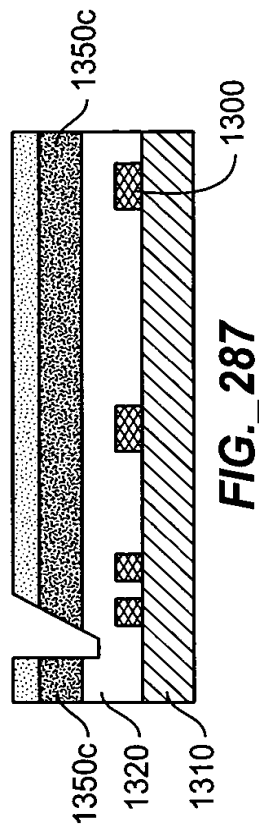
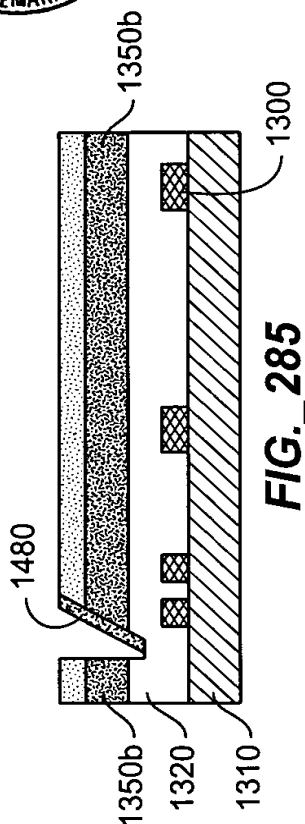
FIG. 262











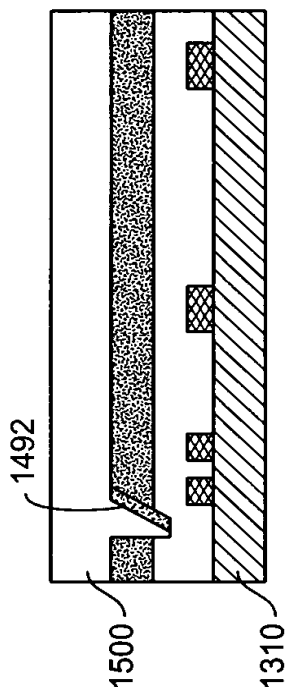


FIG. 293

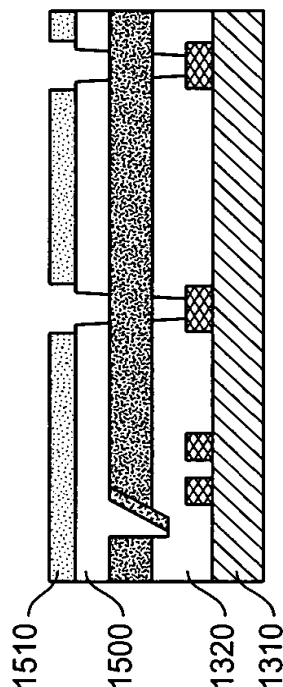


FIG. 295

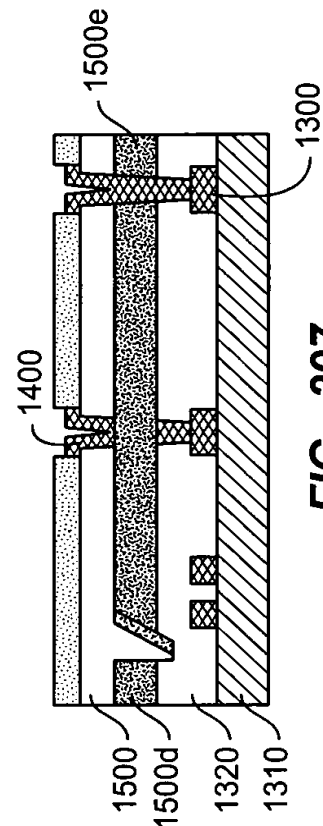


FIG. 297

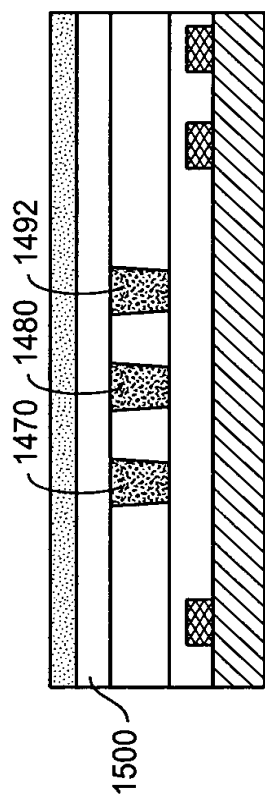


FIG. 292

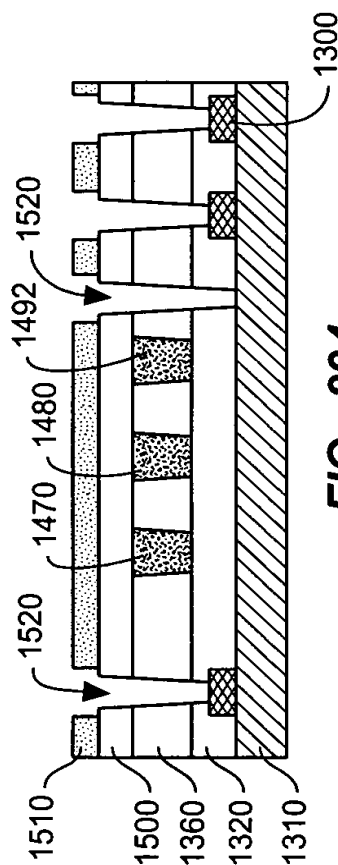


FIG. 294

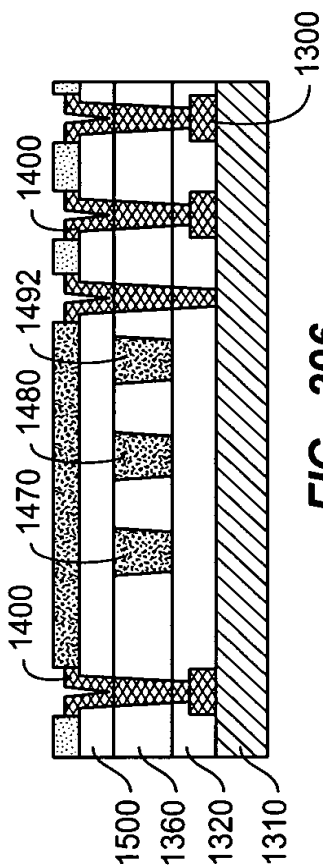


FIG. 296

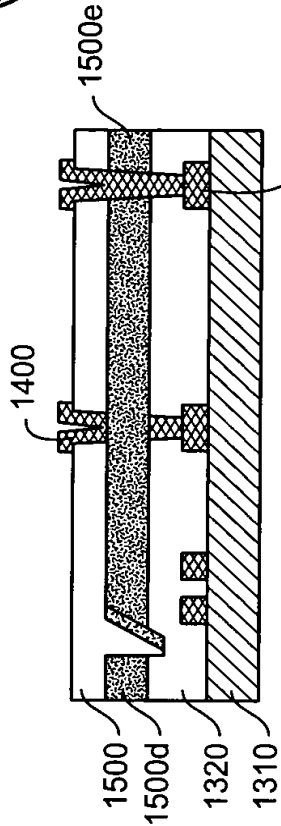


FIG. 299

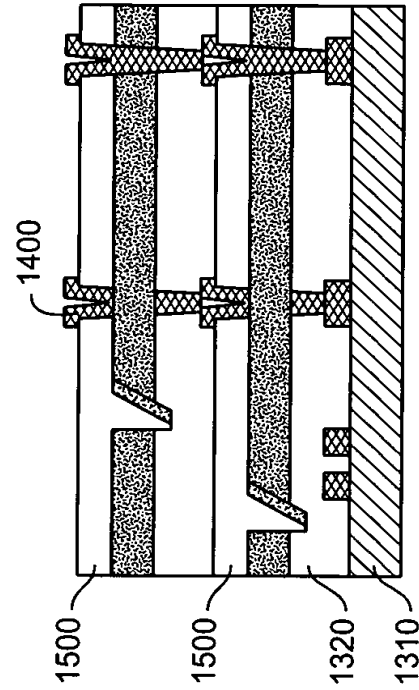


FIG. 301

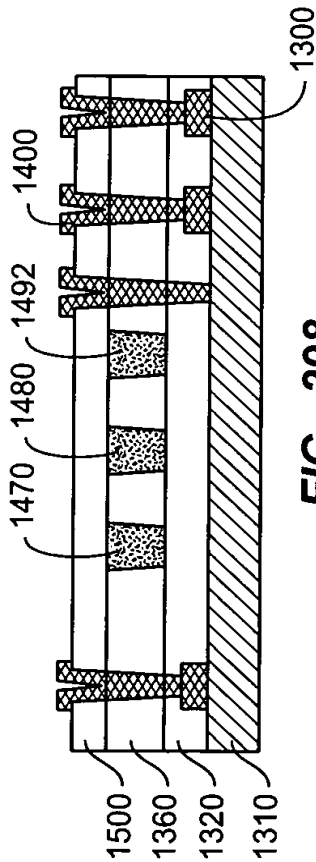


FIG. 298

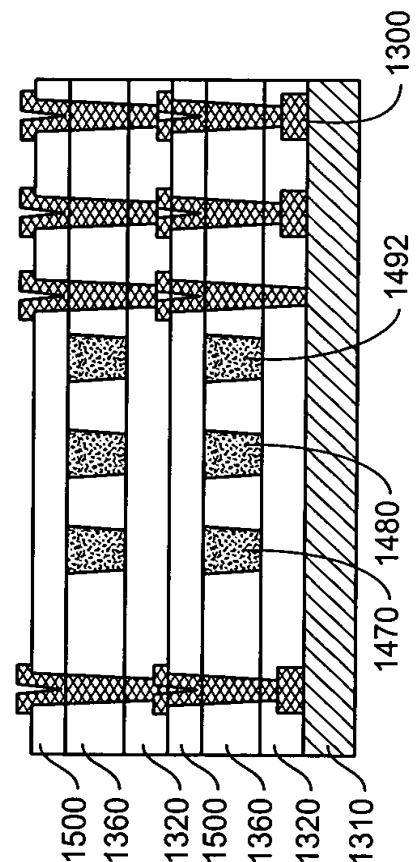


FIG. 300

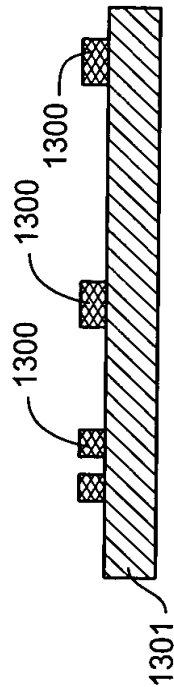


FIG. 303

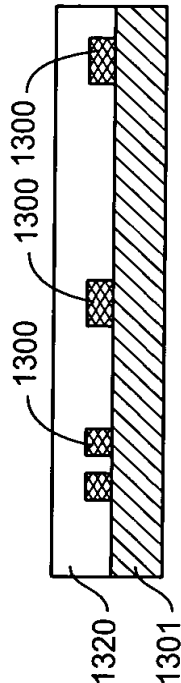


FIG. 305

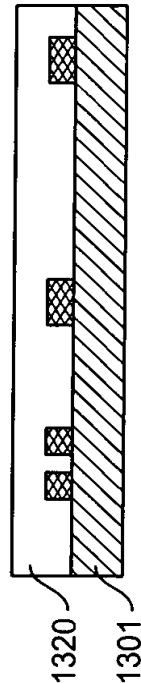


FIG. 307

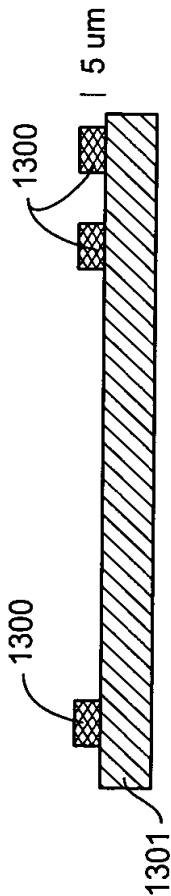


FIG. 302

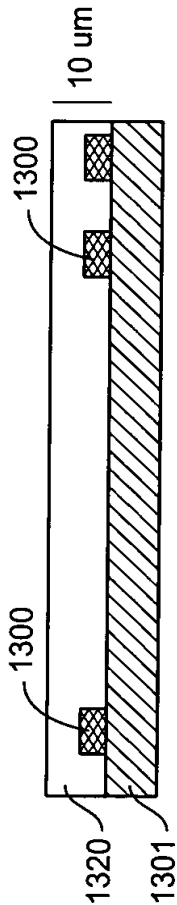


FIG. 304

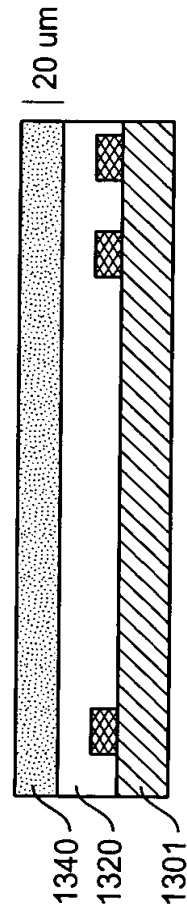


FIG. 306

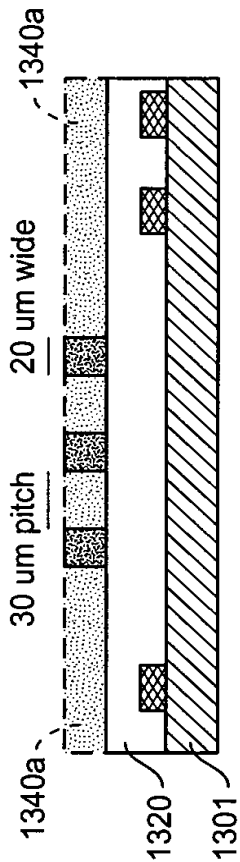


FIG. 308

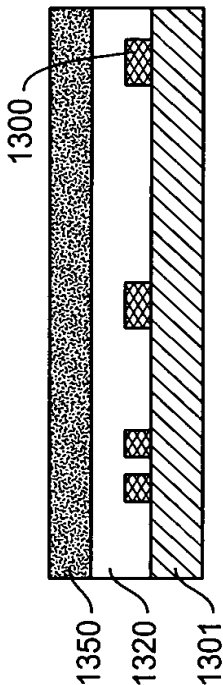


FIG. 309

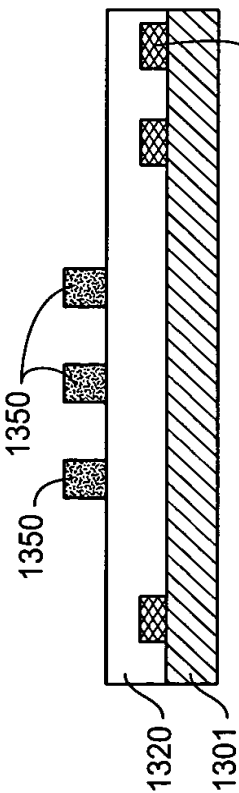


FIG. 310

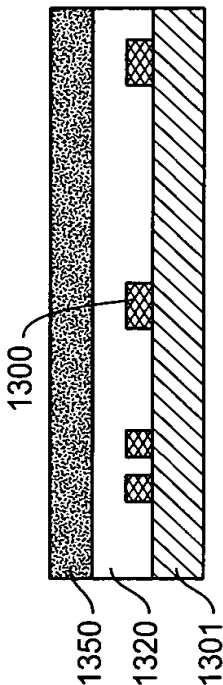


FIG. 311

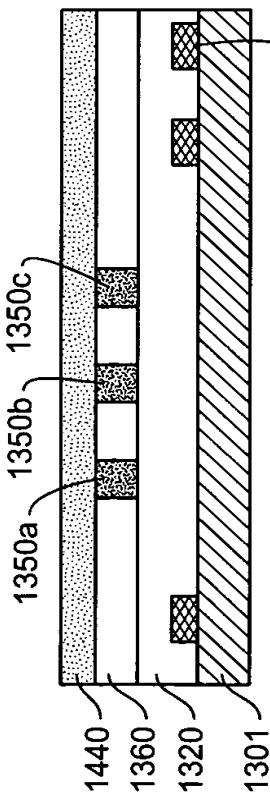


FIG. 312

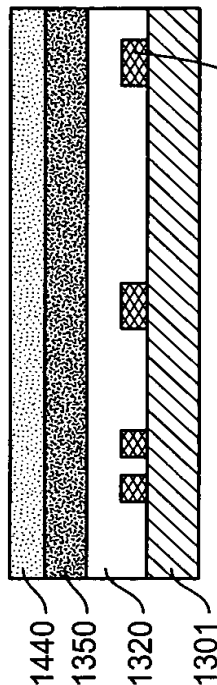
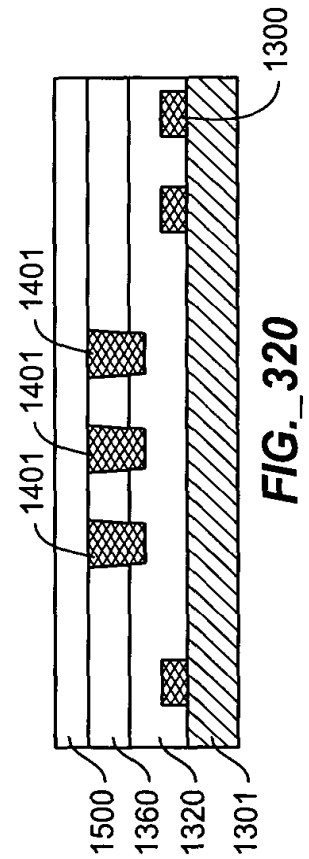
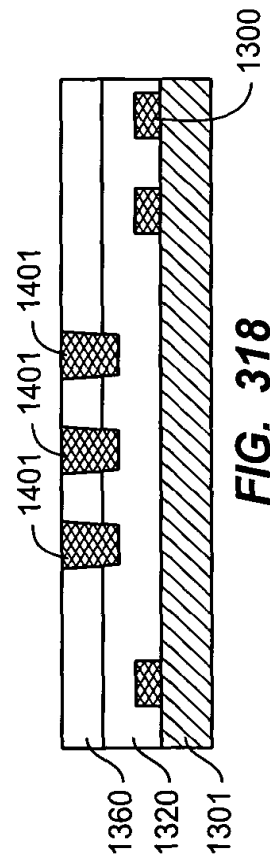
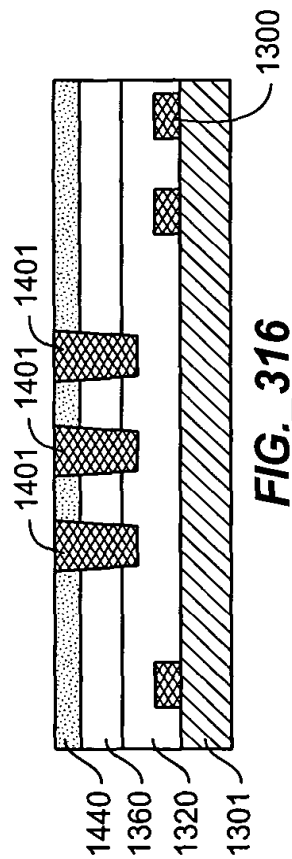
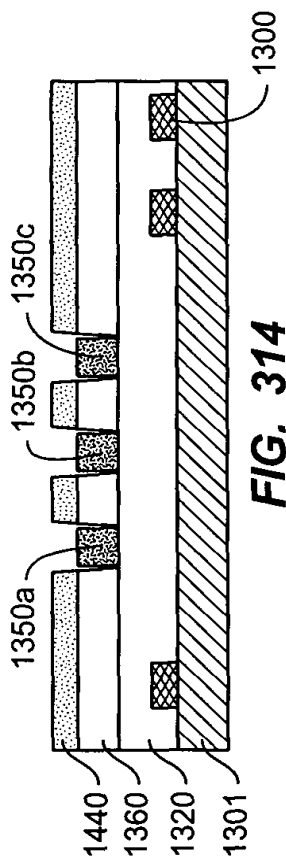
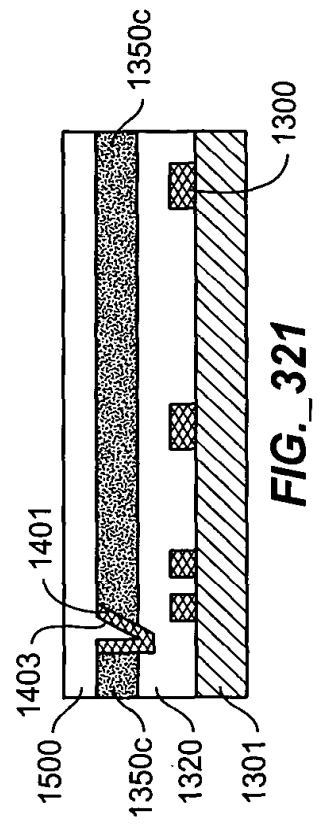
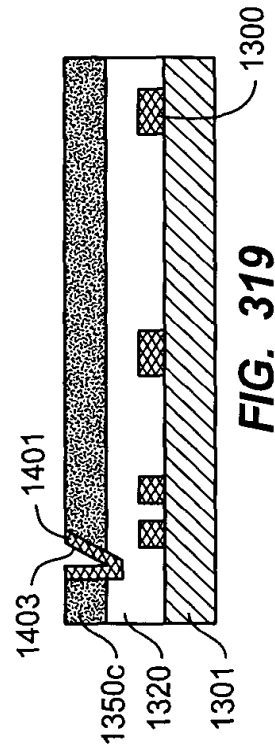
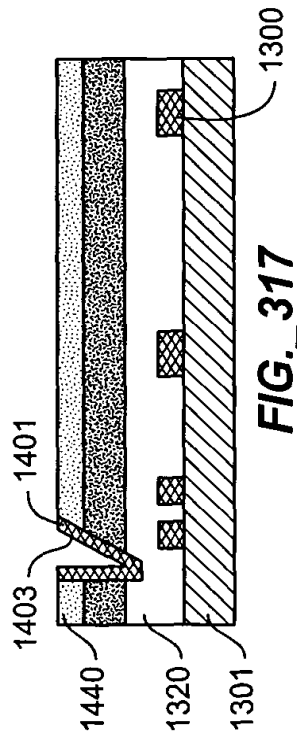
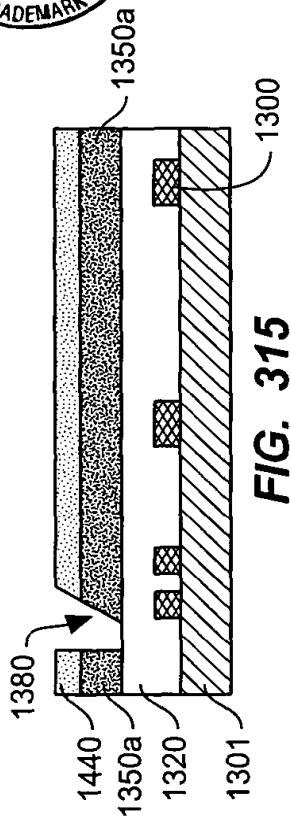


FIG. 313





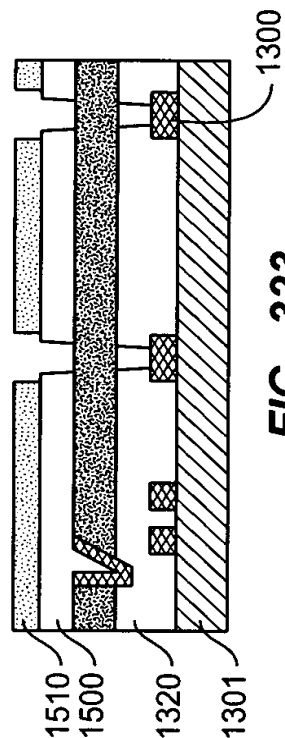


FIG. 323

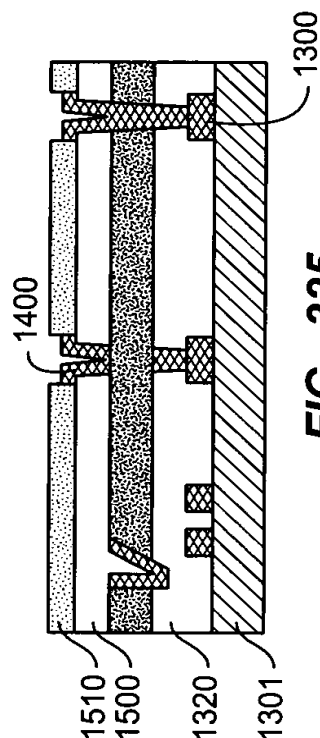


FIG. 325

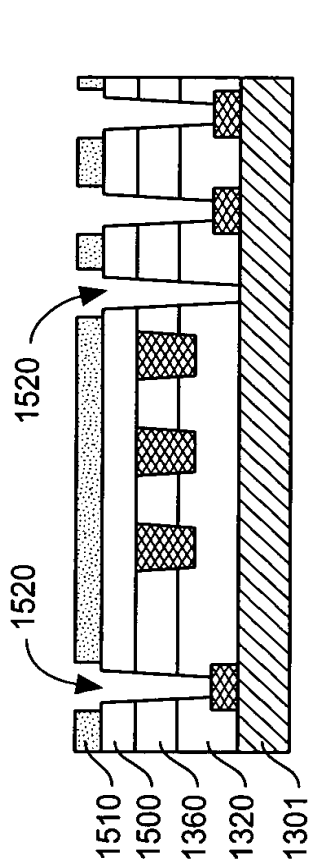


FIG. 322

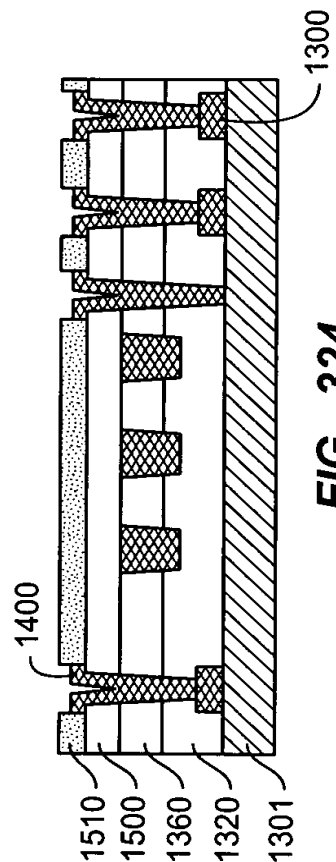
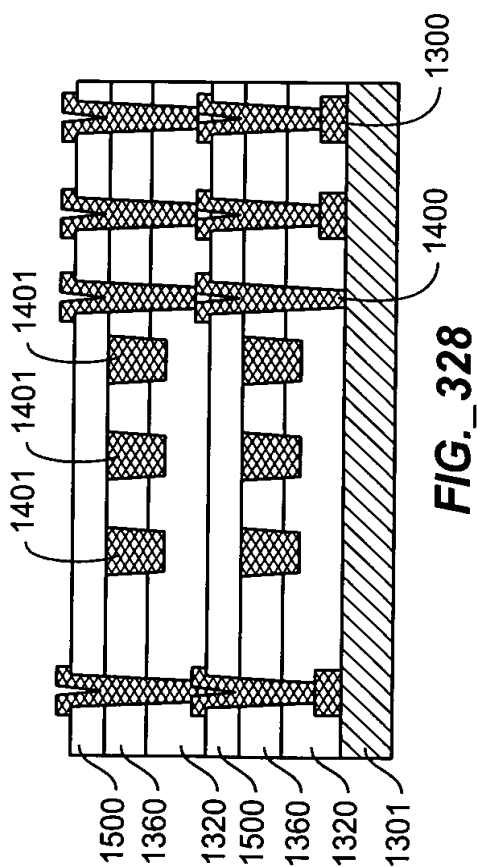
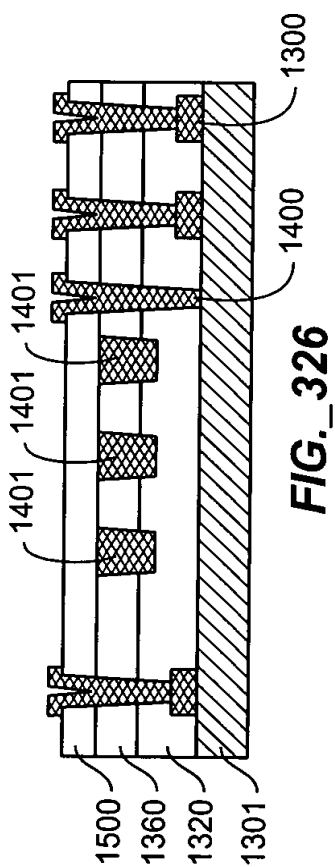
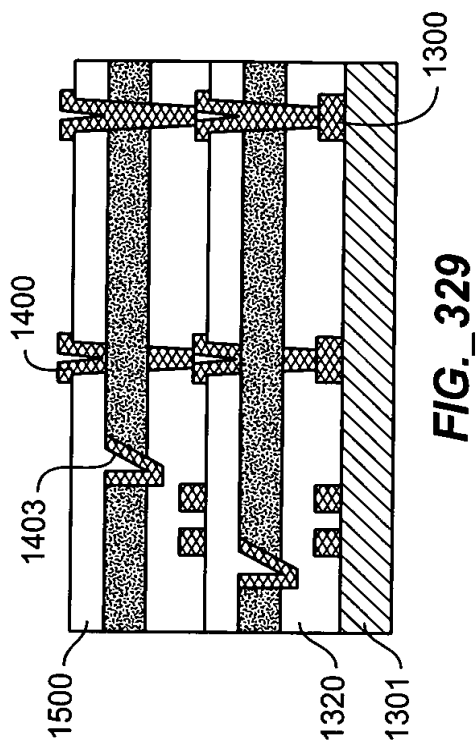
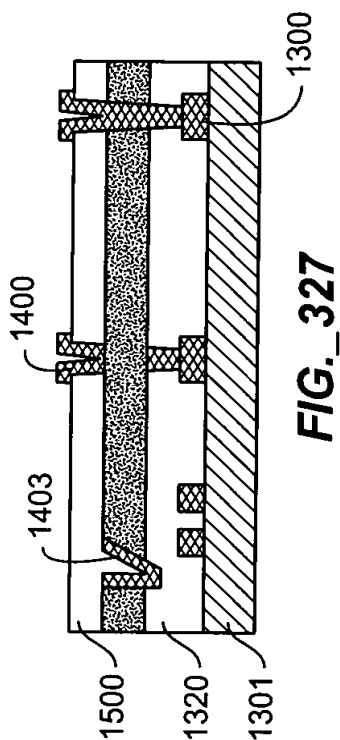
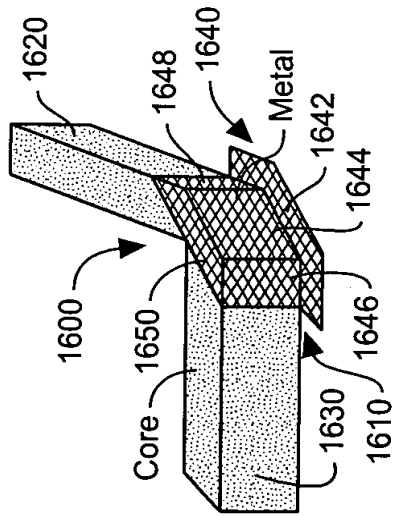
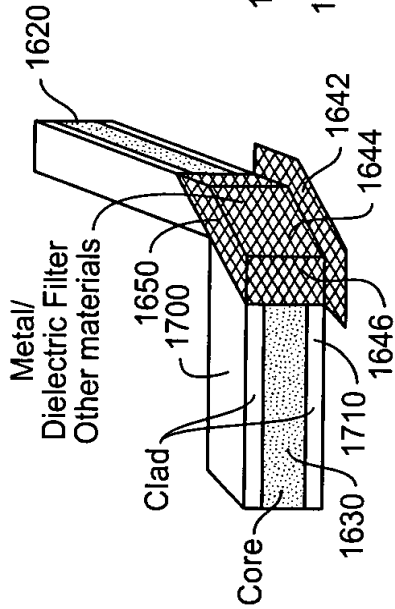


FIG. 324

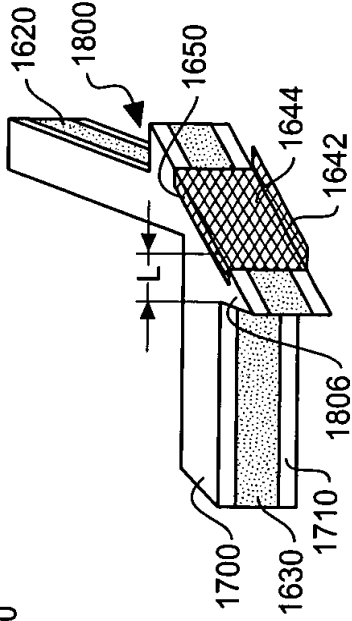




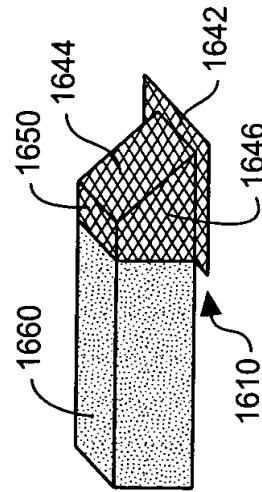
Conventional Corner Turning



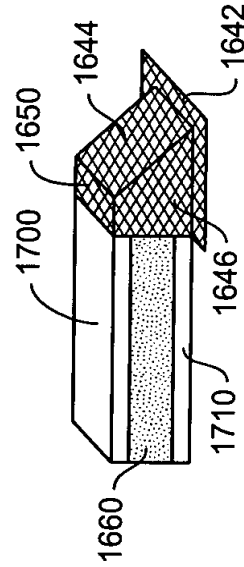
**Invented Corner Turning (I)**  
**FIG. 332**



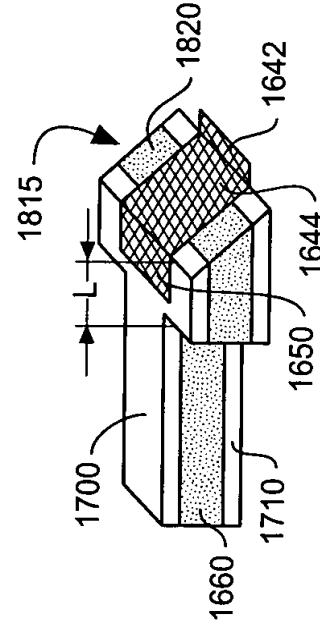
**Invented Corner Turning (II)**  
**FIG. 334**



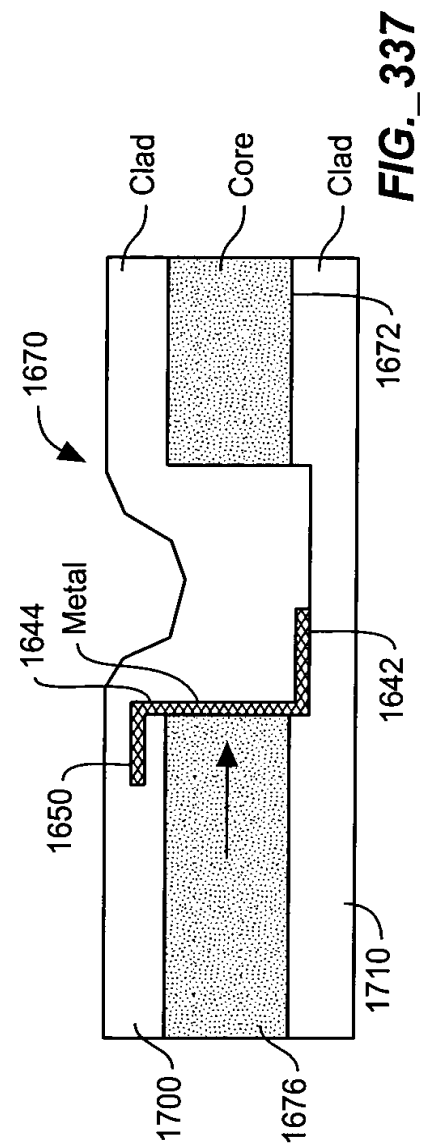
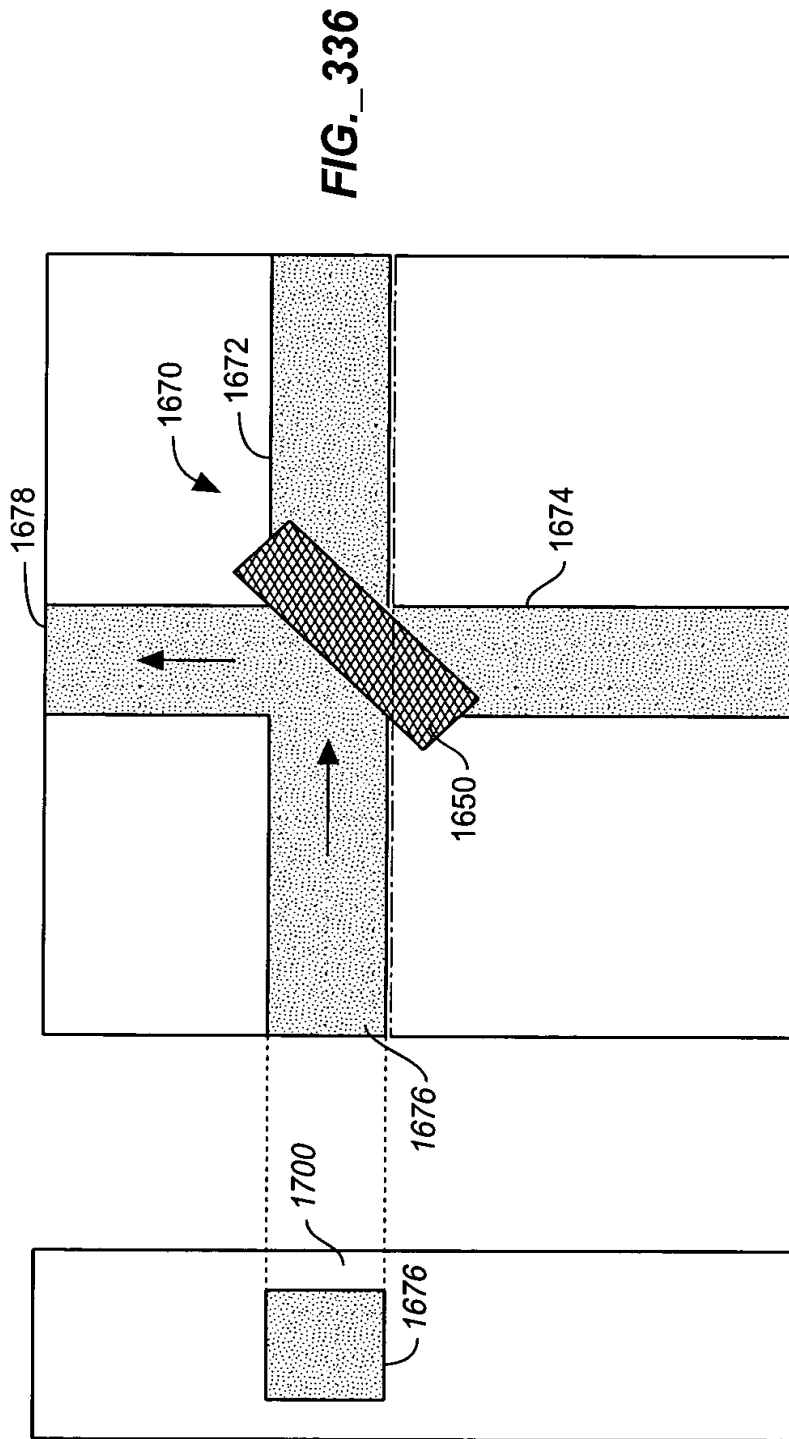
Conventional Coupler  
**FIG. 331**

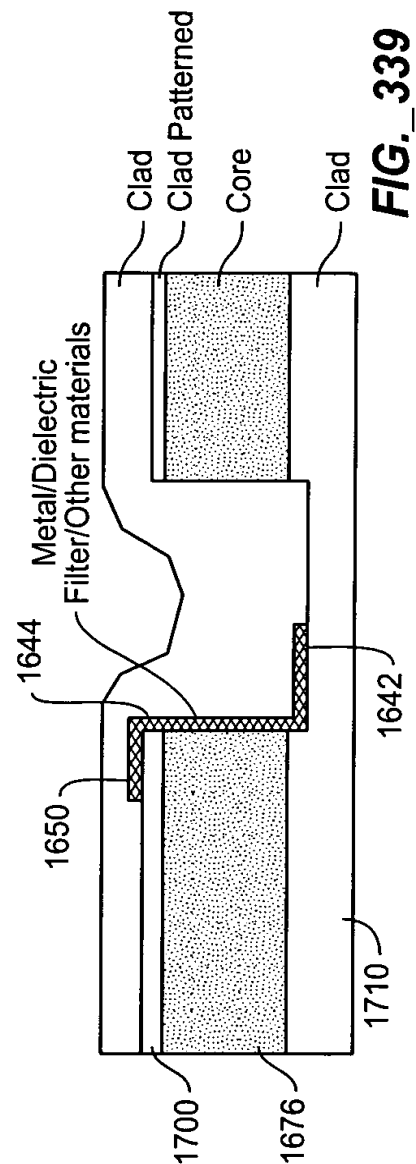
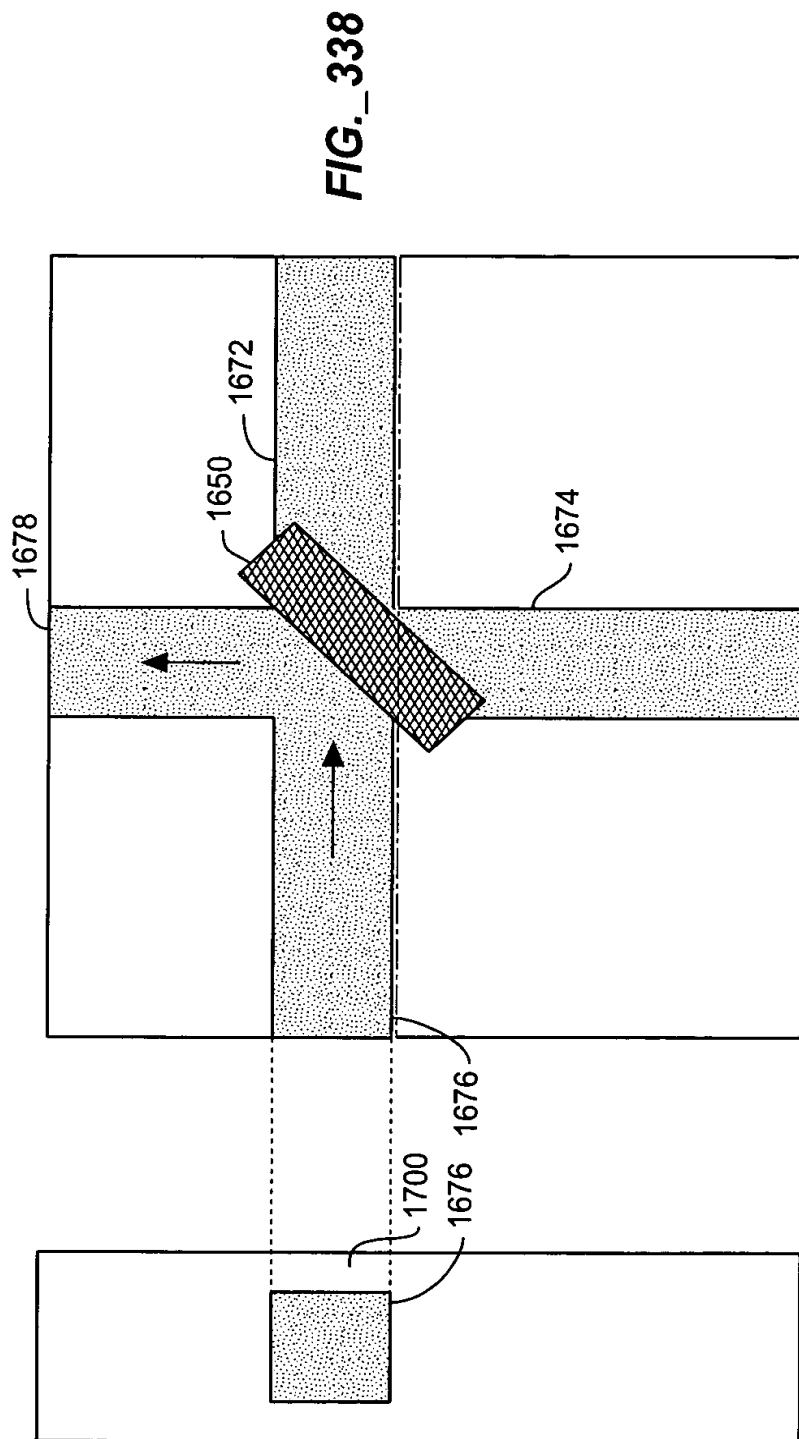


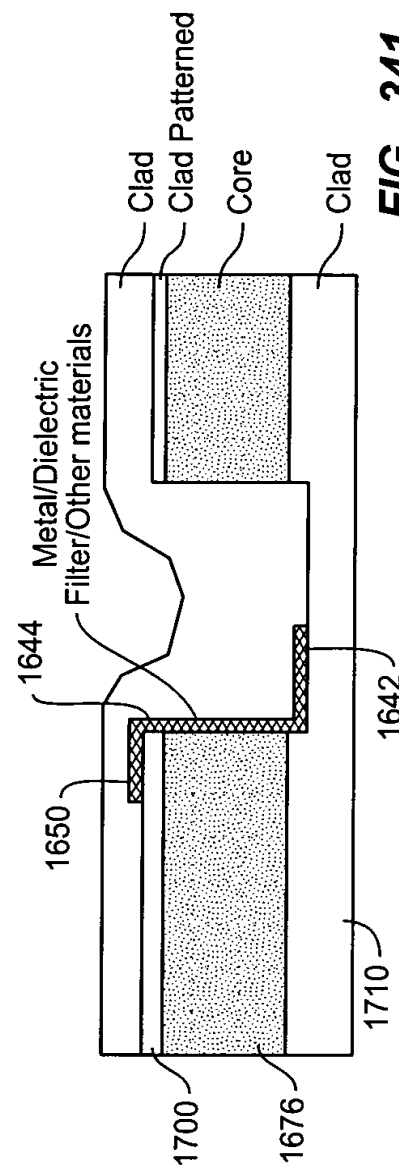
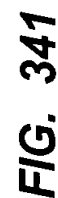
**Invented Coupler (I)**  
**FIG. 333**



**Invented Coupler (II)**  
**FIG. 335**







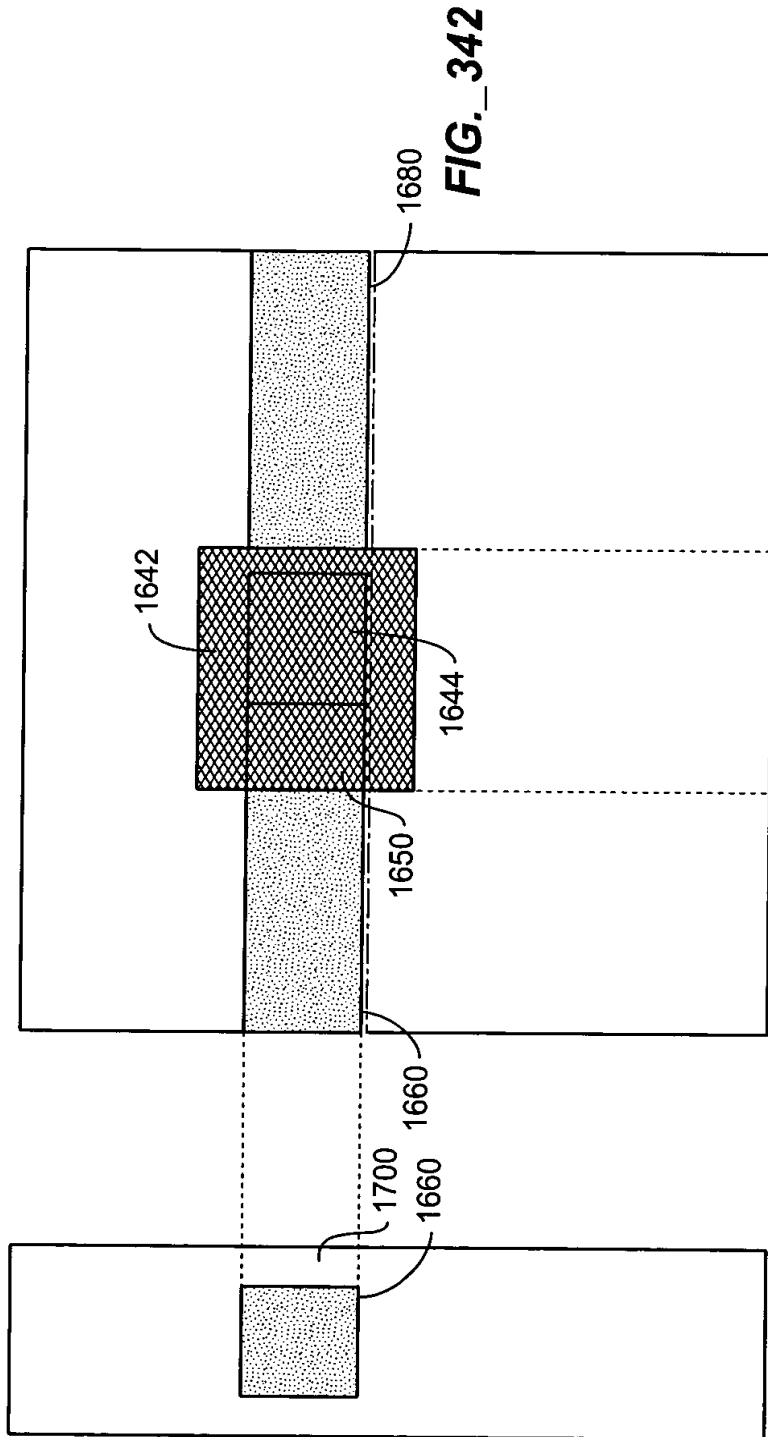


FIG. 342

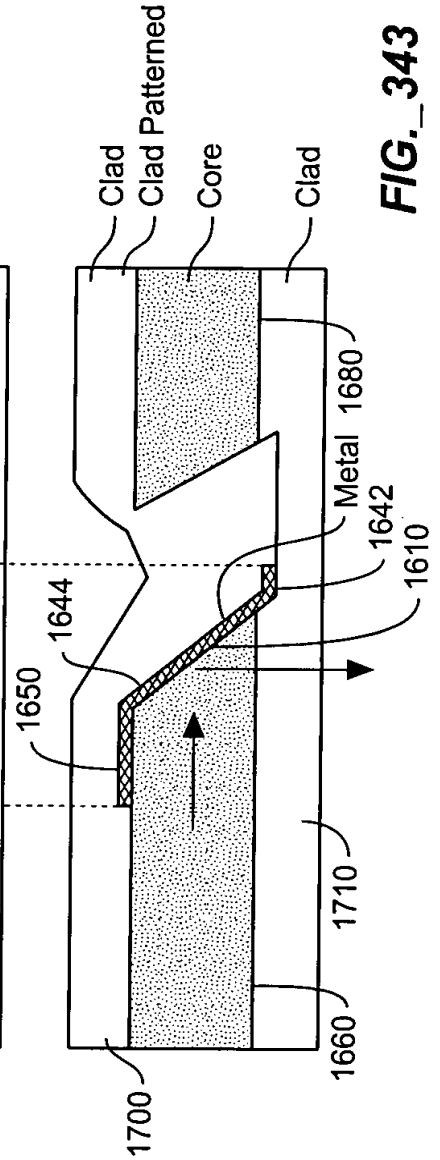
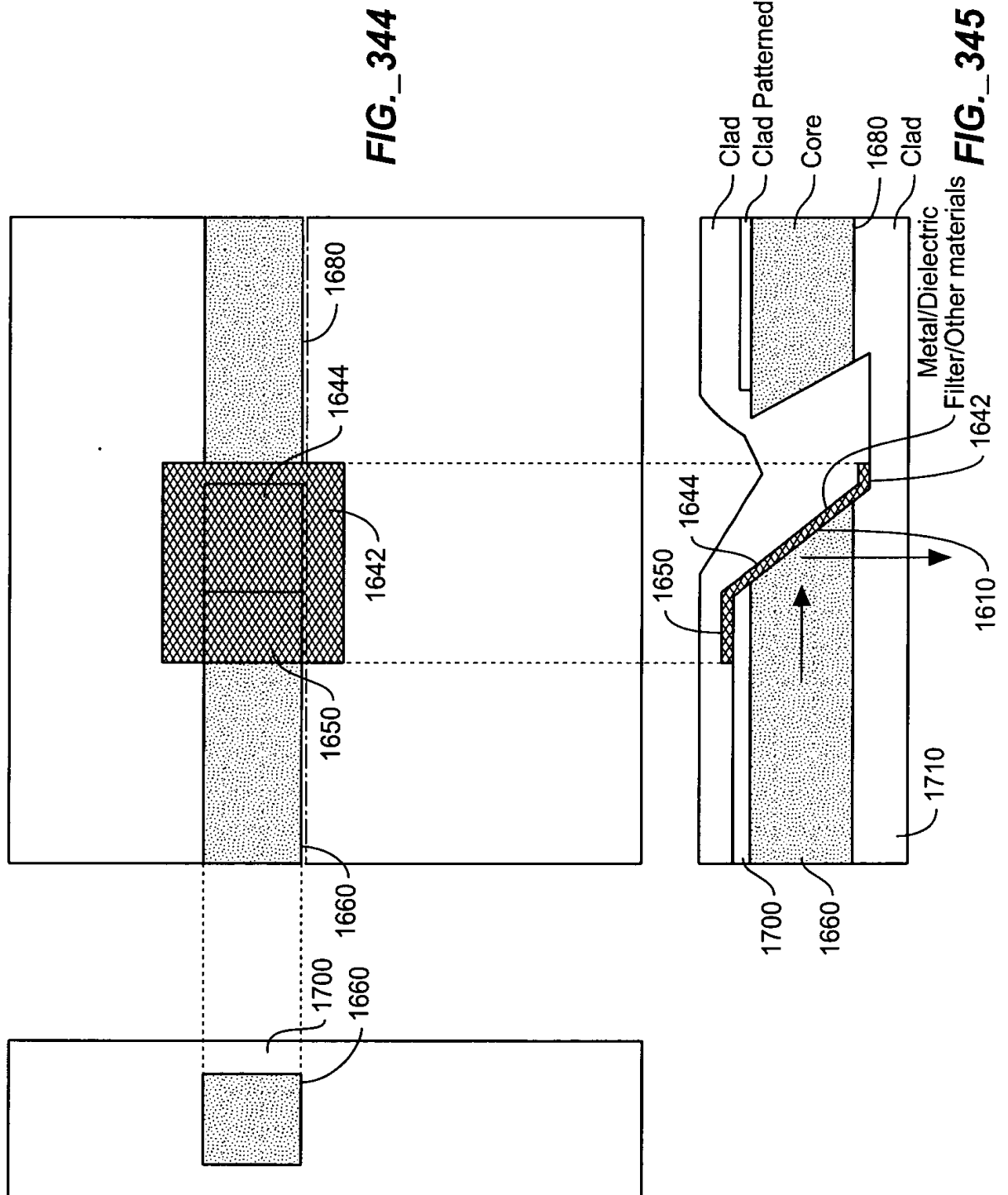
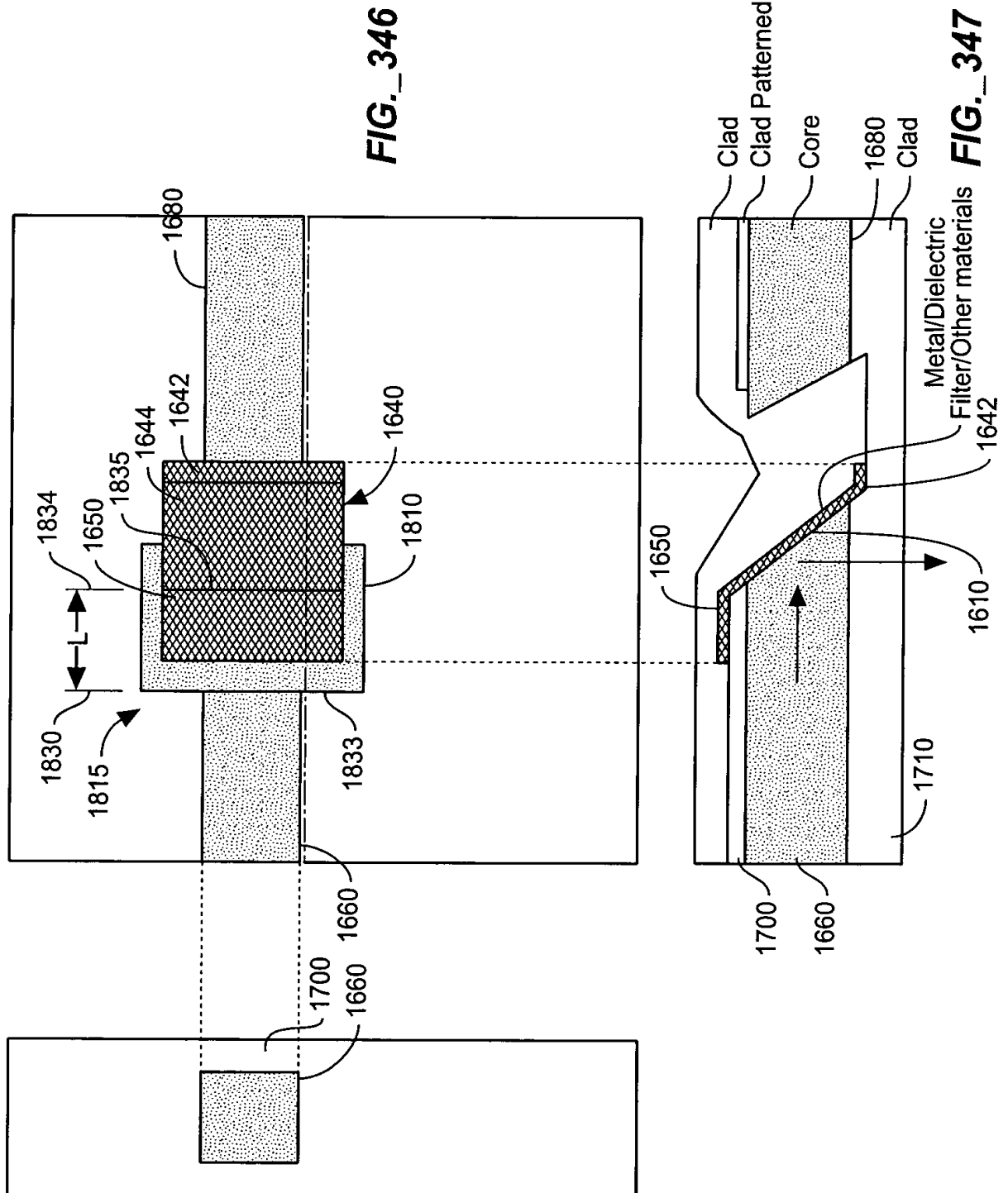


FIG. 343







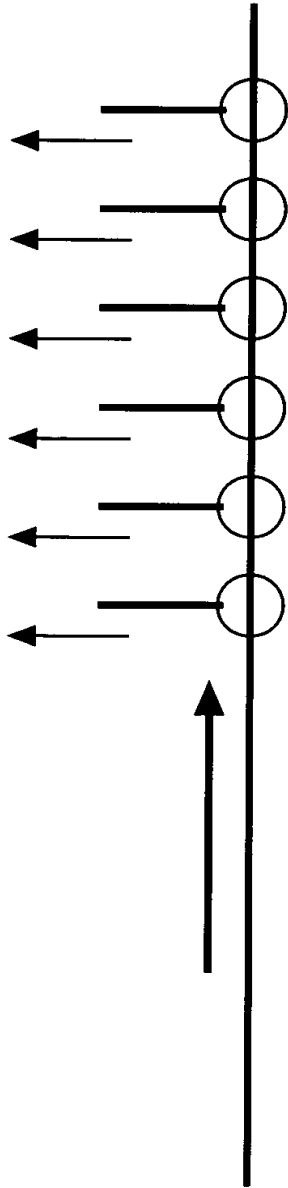


FIG. 348

Beam Splitter

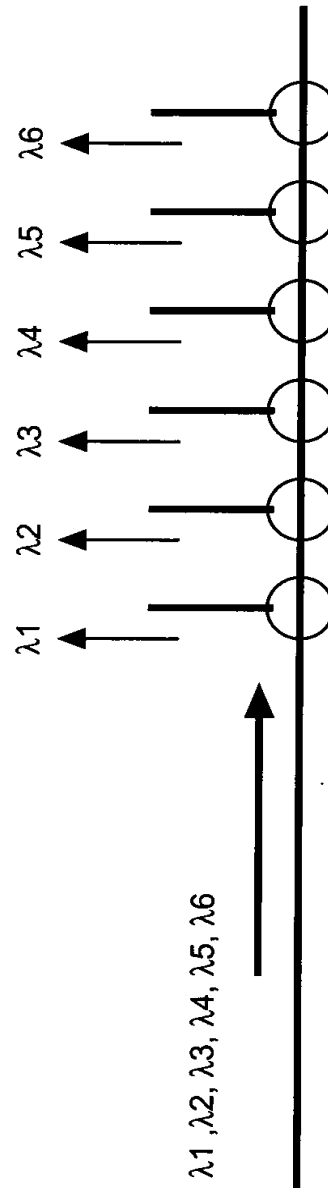
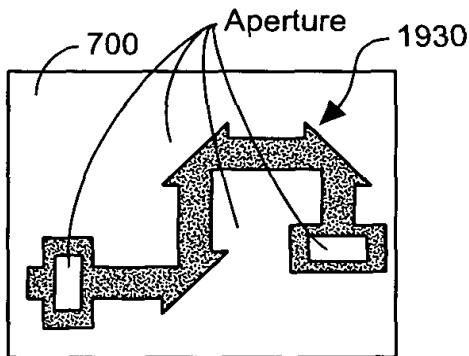


FIG. 349

WDM DEMUX

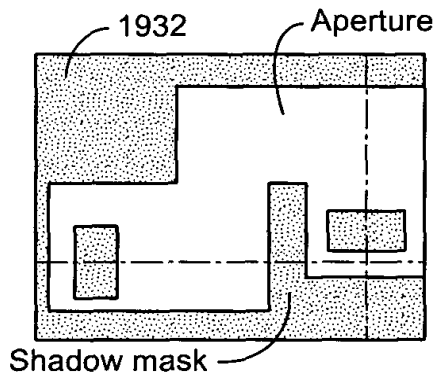


Buffer/Clad/Core/Clad  
Mask formation  
For Waveguide/Coupler

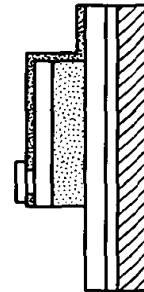


**FIG. 350**

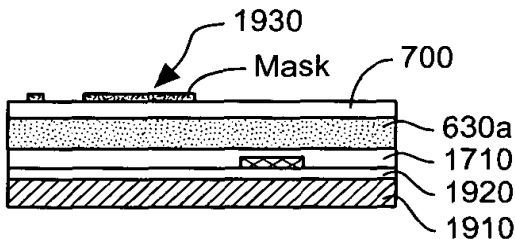
Waveguide Formation  
MNA or MNE



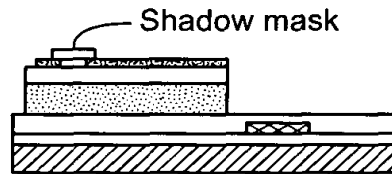
**FIG. 355**



**FIG. 357**



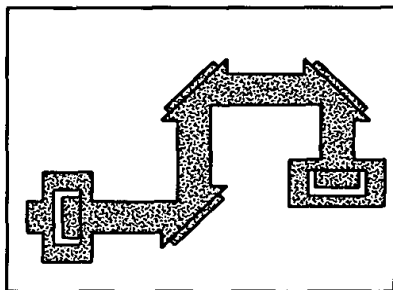
**FIG. 351**



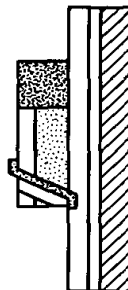
**FIG. 356**

(MNA: Moving Neon Ablation)  
(MNE: Moving Neon Etching)

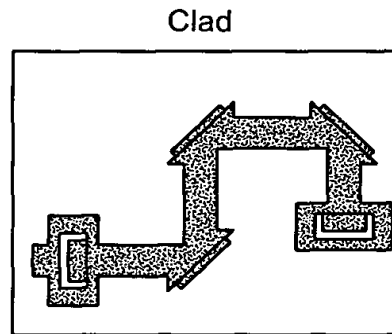
Mask removal/  
Metal or  
Dielectric Filter or  
Other materials Deposition



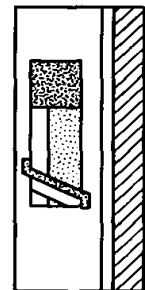
**FIG. 352**



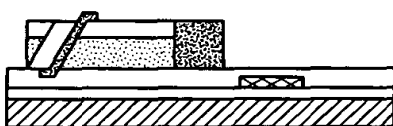
**FIG. 354**



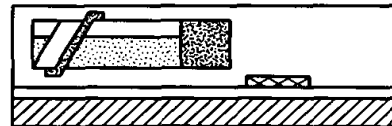
**FIG. 358**



**FIG. 360**



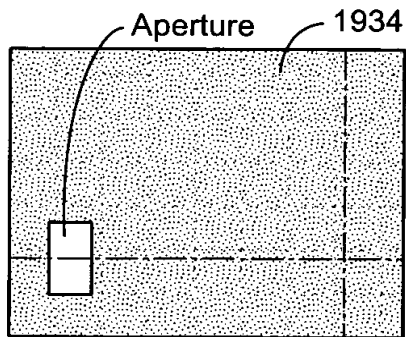
**FIG. 353**



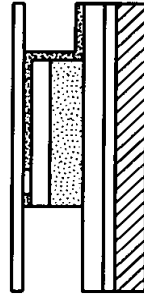
**FIG. 359**



Coupler Formation I  
MNA or MNE

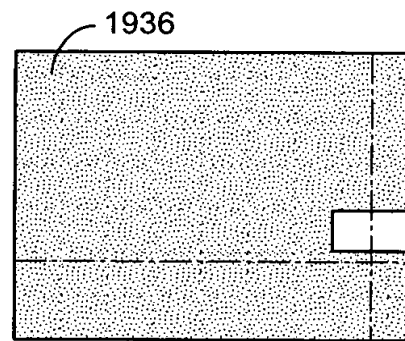


**FIG.\_361**

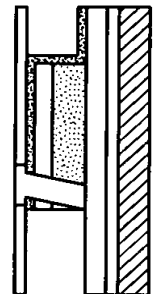


**FIG.\_363**

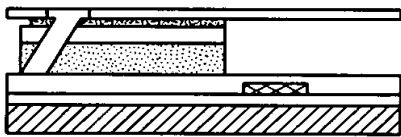
Coupler Formation II  
MNA or MNE



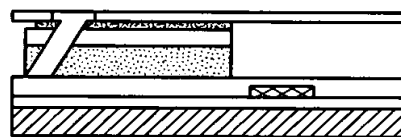
**FIG.\_367**



**FIG.\_369**

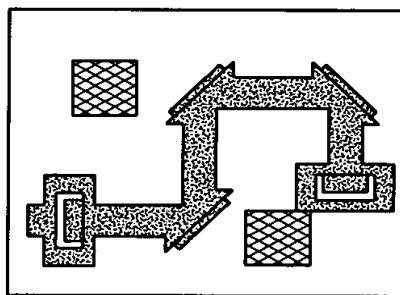


**FIG.\_362**



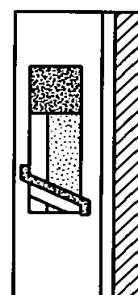
**FIG.\_368**

Materialization



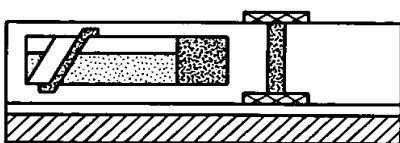
**FIG.\_364**

→ Top



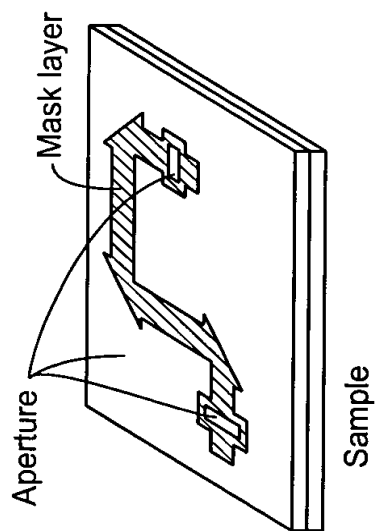
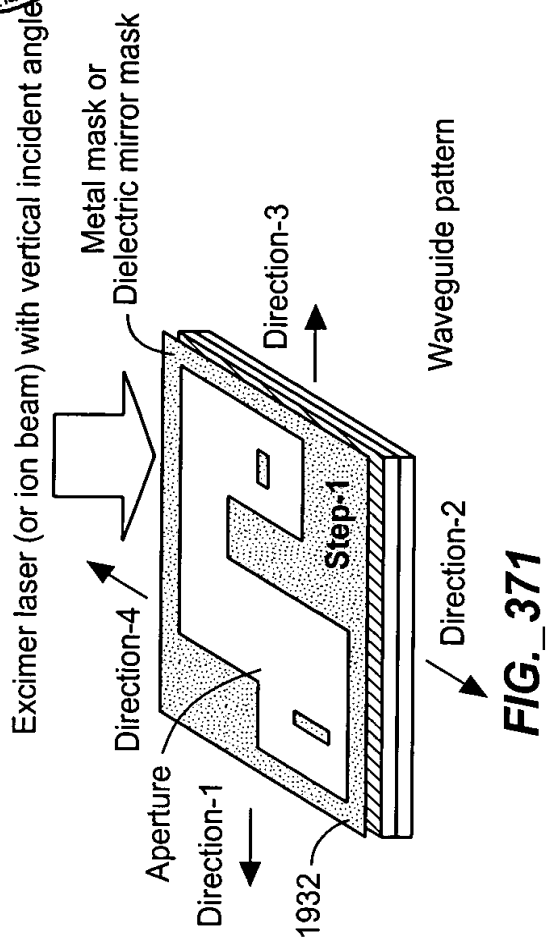
**FIG.\_366**

Z-Connection  
Substrate  
Removal

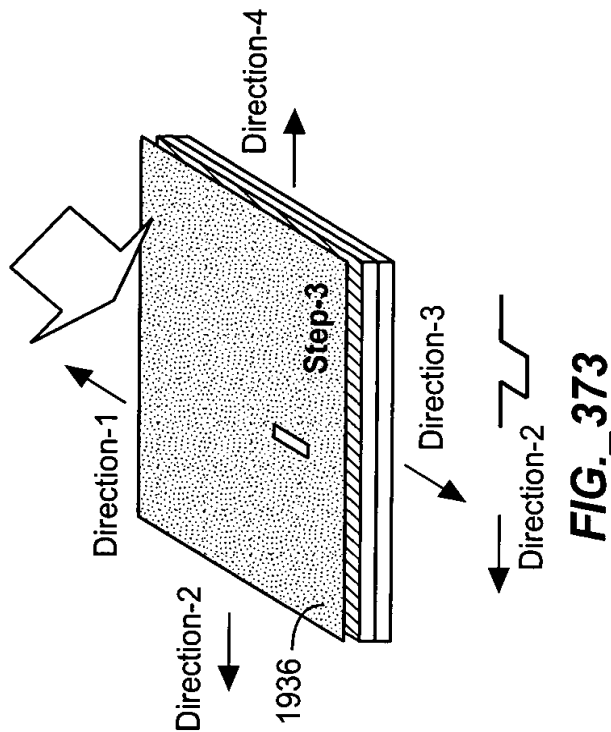
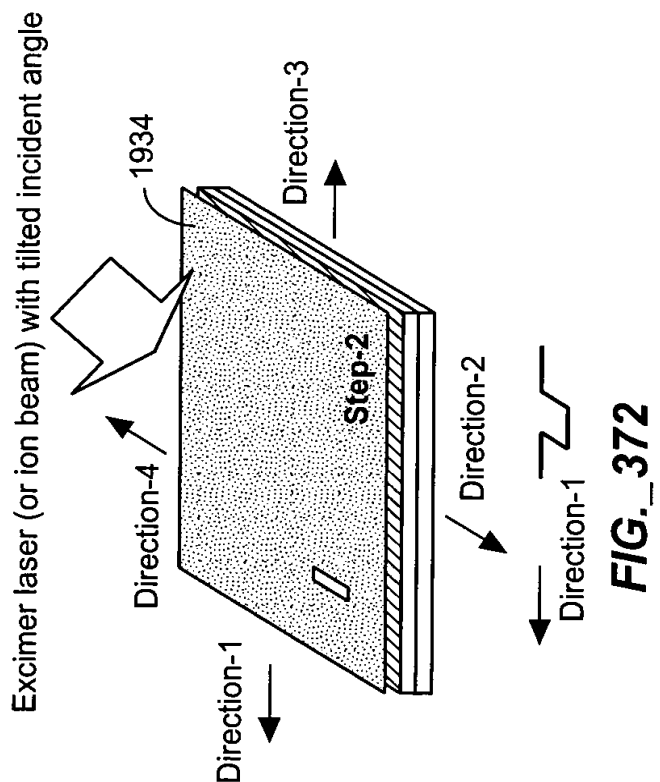


**FIG.\_365**

↓ Top

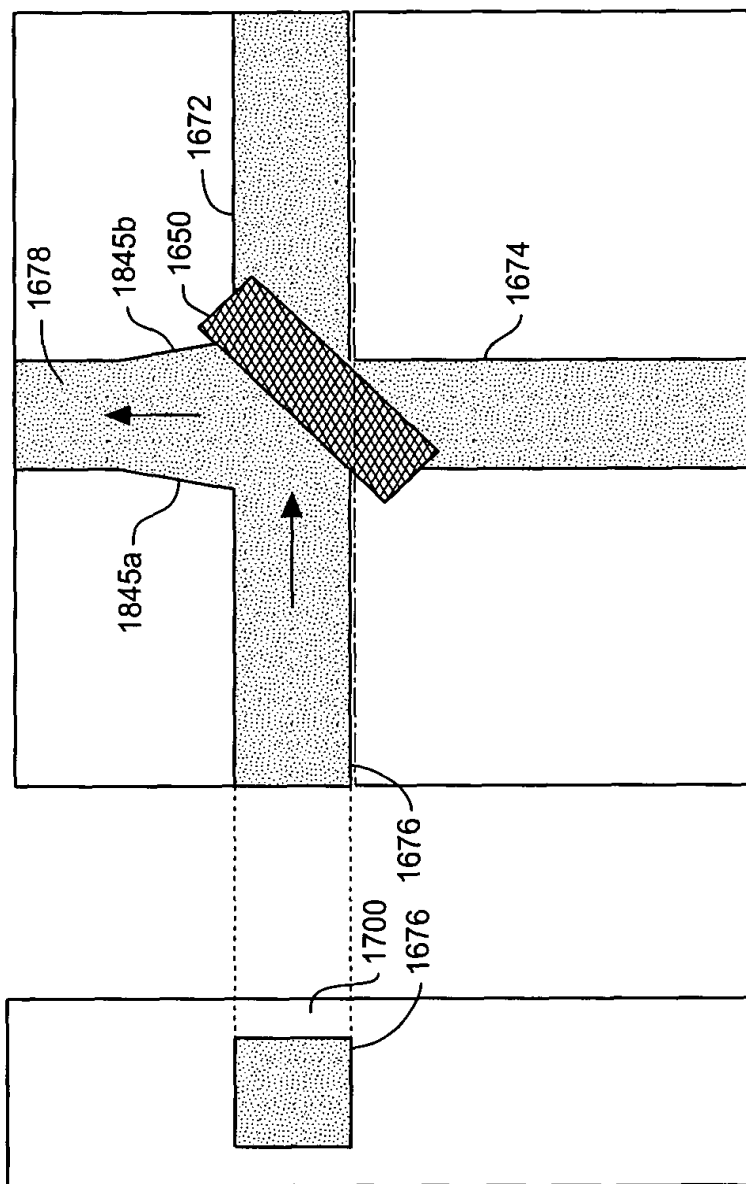


**FIG. 370**

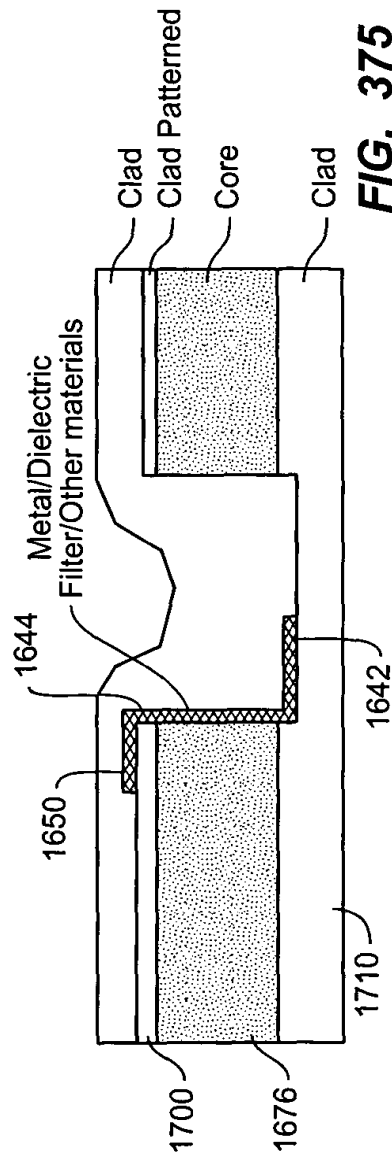




**FIG. 374**



**FIG. 375**





Example 3: Z waveguide Fab. Process 1

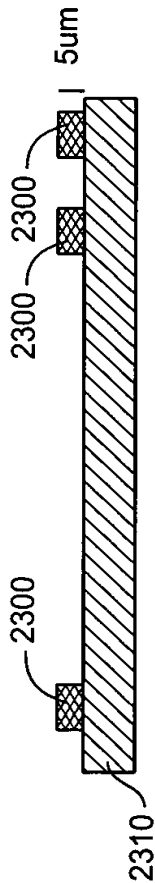


FIG. 376

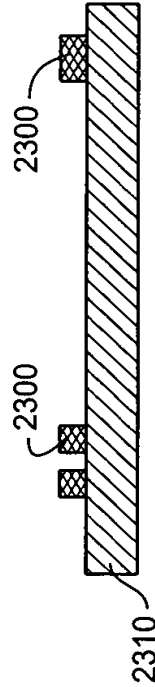


FIG. 377

(a1) Metal pattern formation

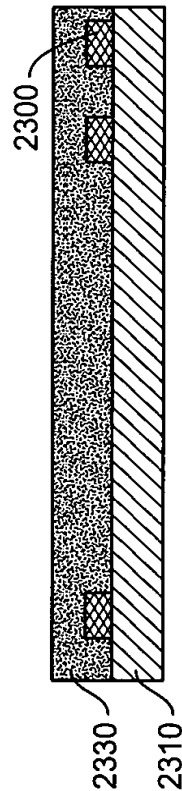


FIG. 378

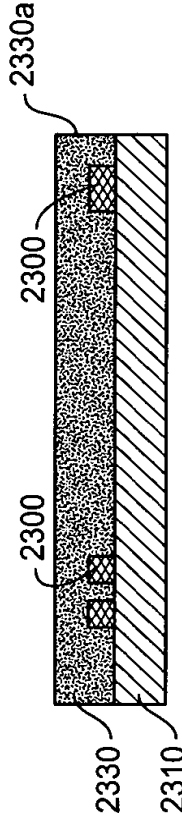


FIG. 379

(a2) Core coat9  
[DuPont, AlliedSig, ORMOCERs or F-Pi]

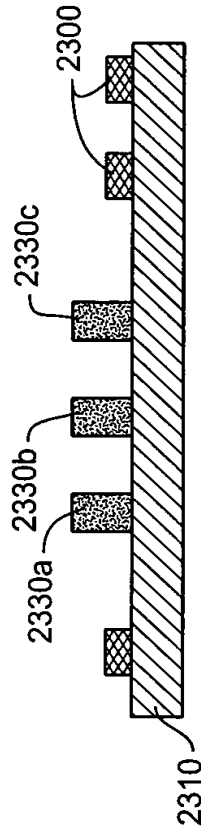


FIG. 380

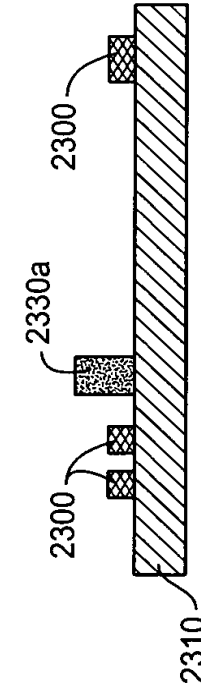


FIG. 381

(a3) Z-WG core patterning  
[UV-Exposure, mask-formation+RIE,  
Laser, or Dupont process]

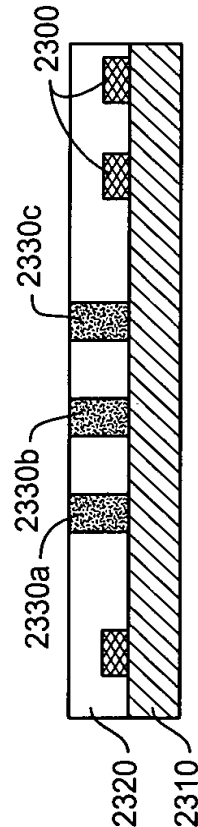


FIG. 382

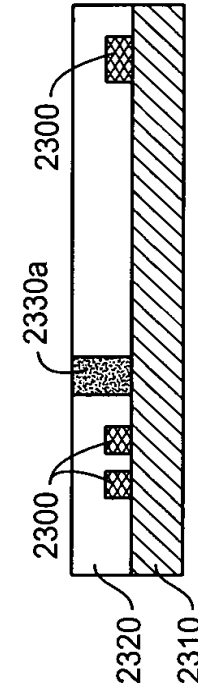
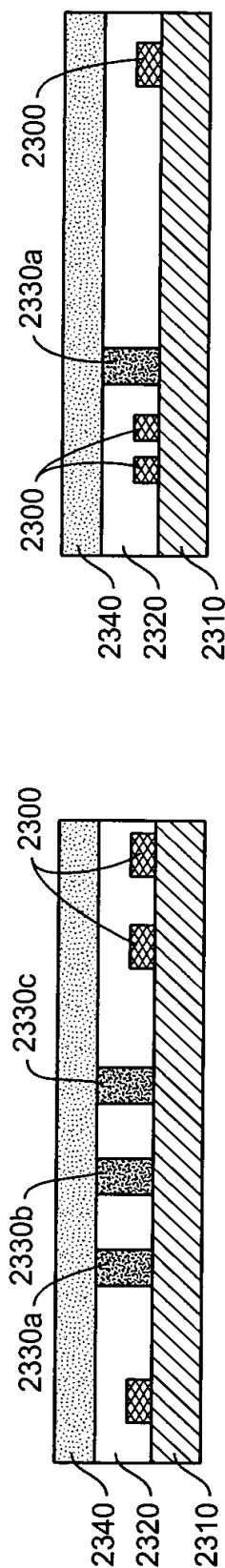


FIG. 383

(a4) Clad coat  
(for planarization viscosity adjust  
if necessary CMP)

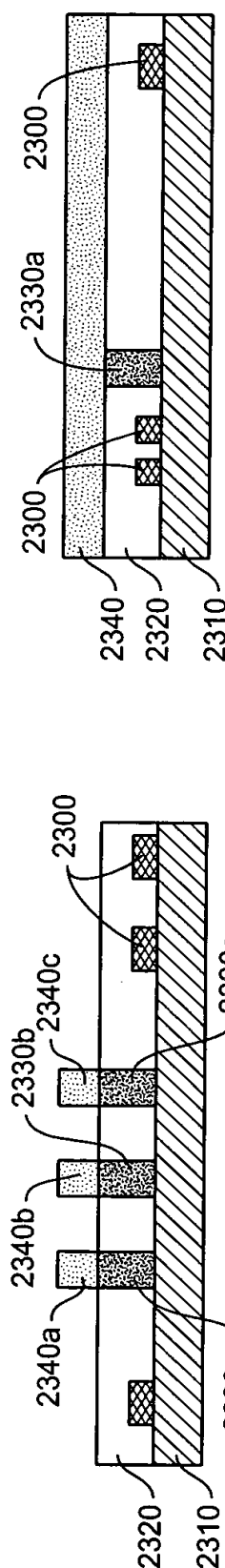




**FIG. 384**

**FIG. 385**

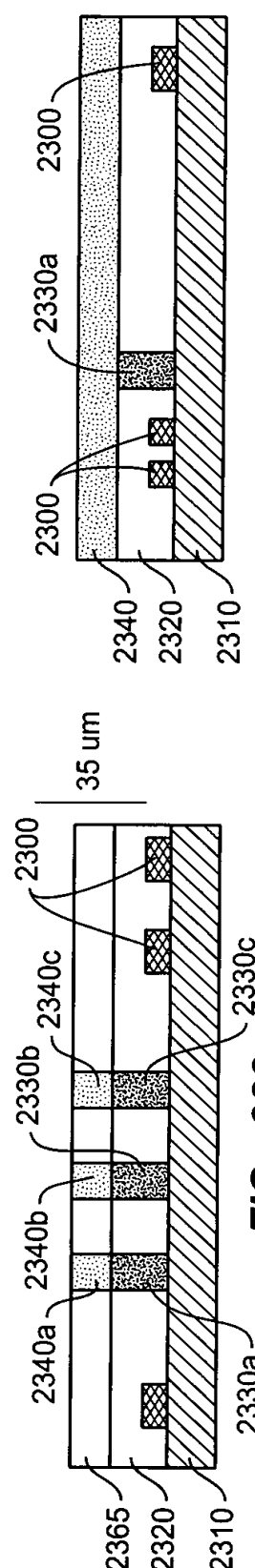
(a5) Core coat  
[DuPont, Allied Signal, ORMOCERs or F-PI]



**FIG. 386**

**FIG. 387**

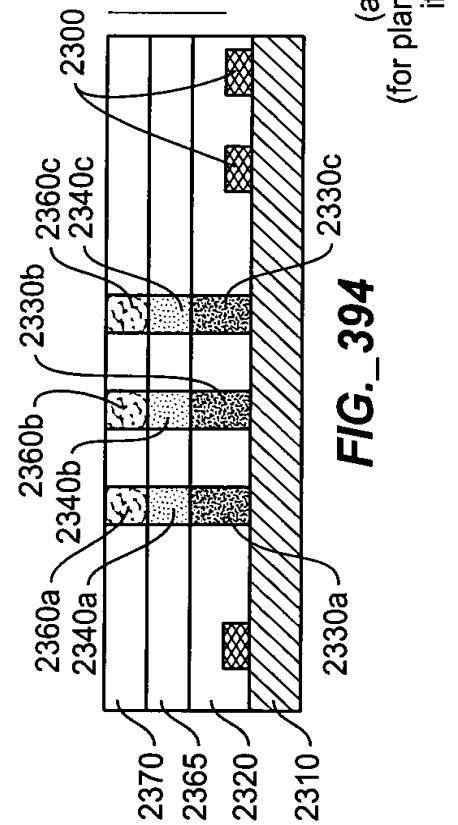
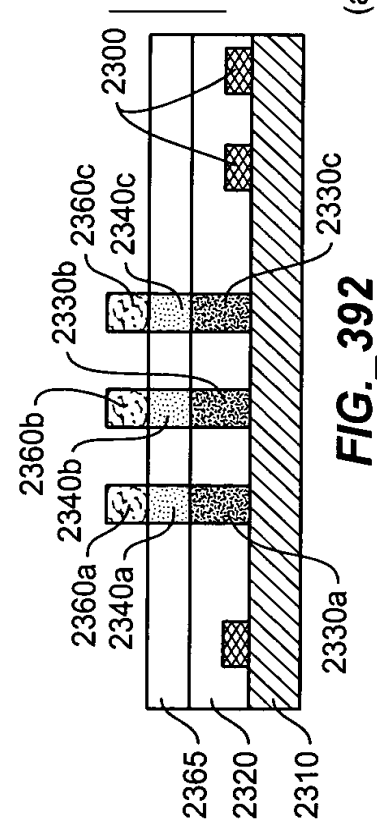
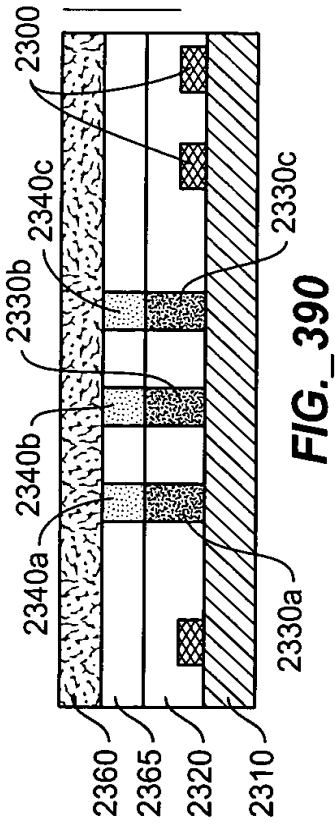
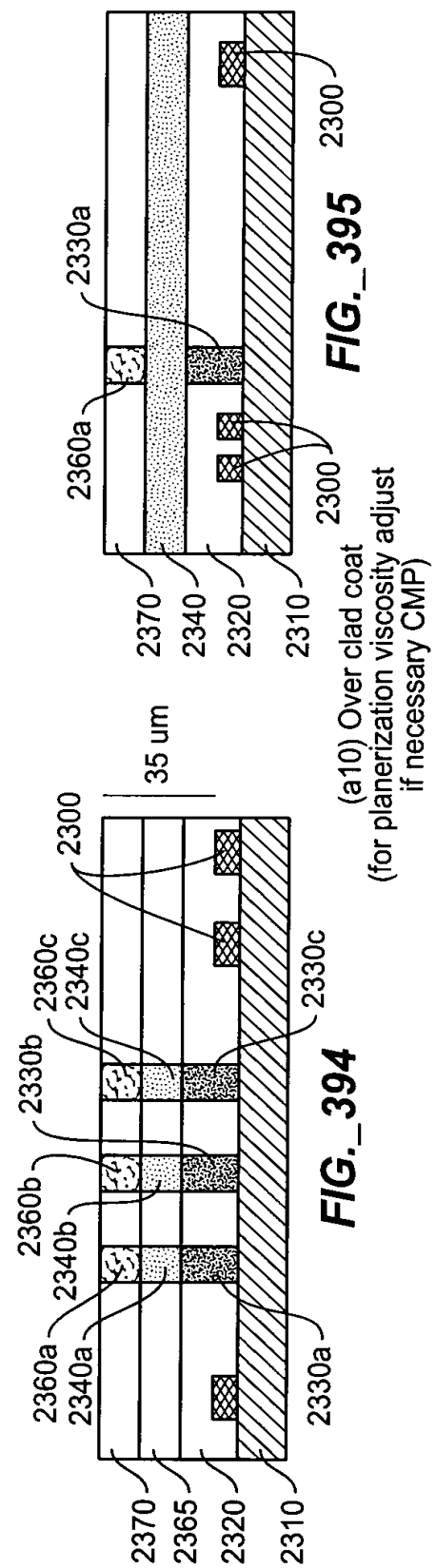
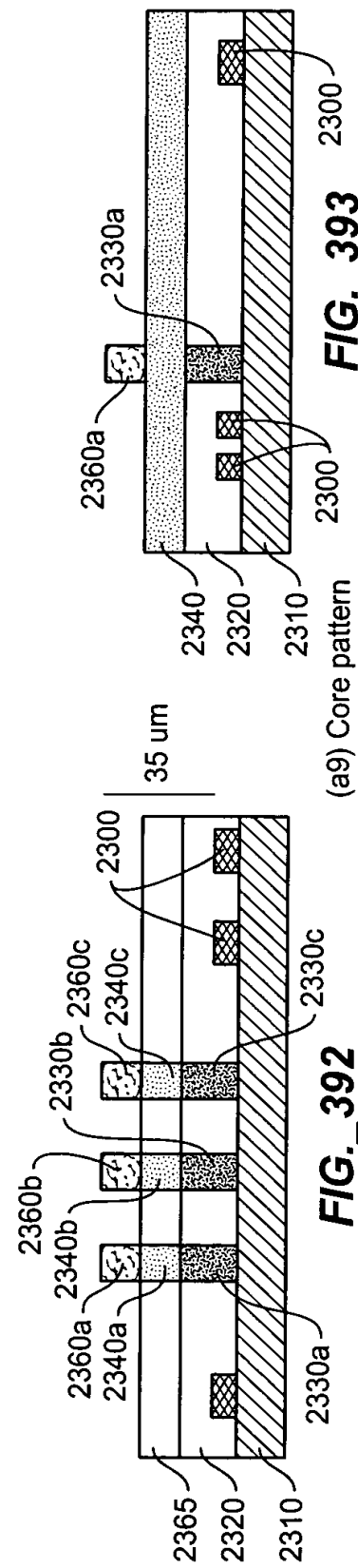
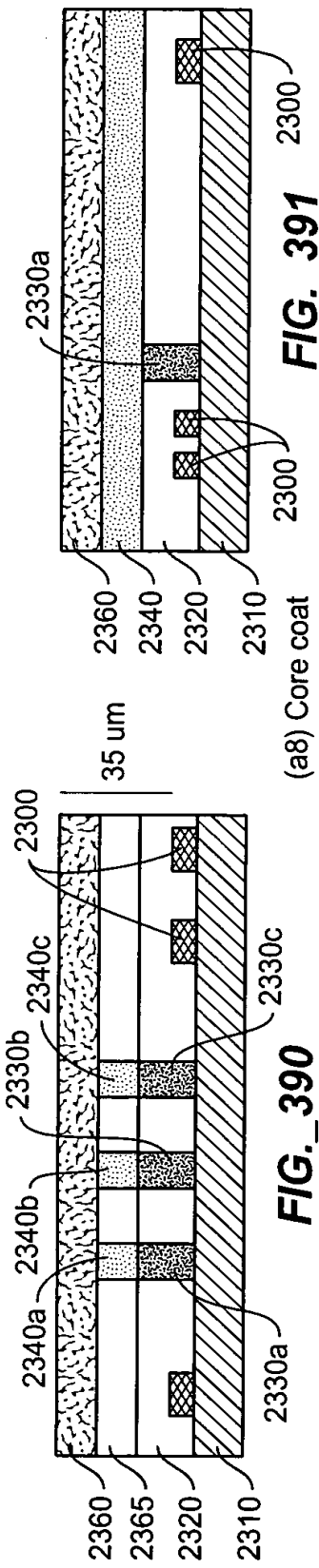
(a6) WG core patterning  
[UV-Exposure, mask-formation+RIE,  
Laser, or Dupont process]  
Development  
(for Allied Signal, ORMOCERs)



**FIG. 388**

**FIG. 389**

(a7) Over clad coat  
[DuPont, Allied Signal, or F-PI]  
(for planarization viscosity adjust  
if necessary CMP)





Example 4: Z waveguide Fab. Process 2

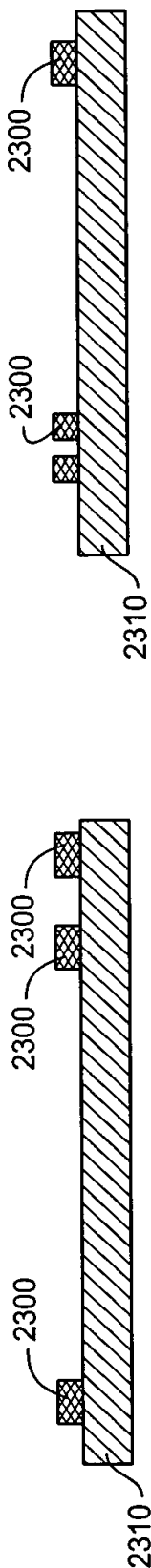


FIG. 396

FIG. 397

(a1) Metal pattern formation

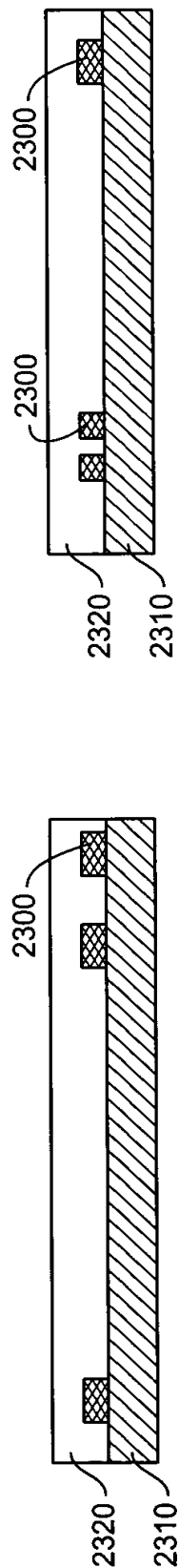


FIG. 398

FIG. 399

(a2) Clad coat  
[DuPont, Allied Signal, ORMOCERs or F-PI]

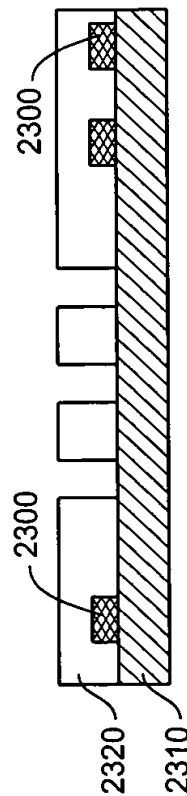


FIG. 400

FIG. 401

(a3) Clad patterning  
[UV-Exposure, mask-formation+RIE,  
Laser, or Dupont process]  
Development (for Allied Signal, ORMOCERs)

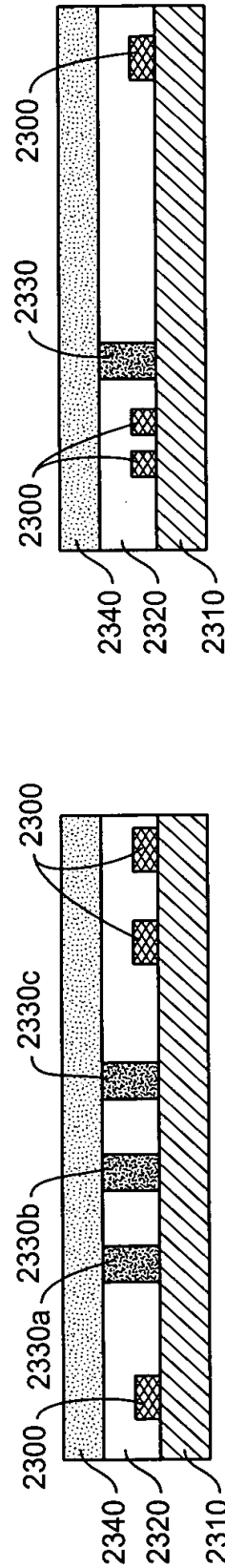
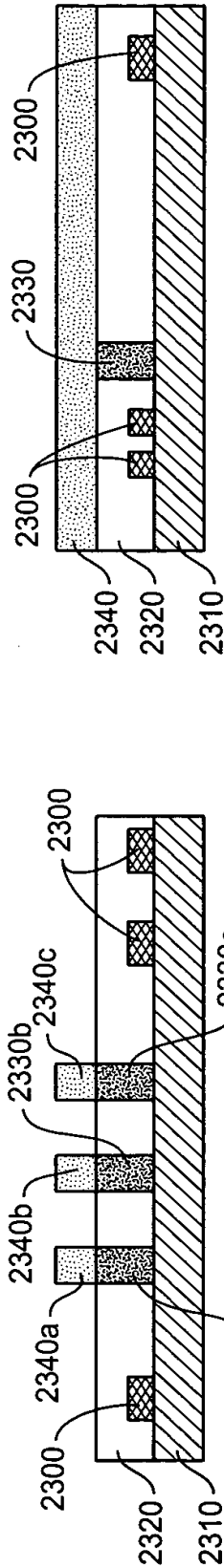


FIG. 402

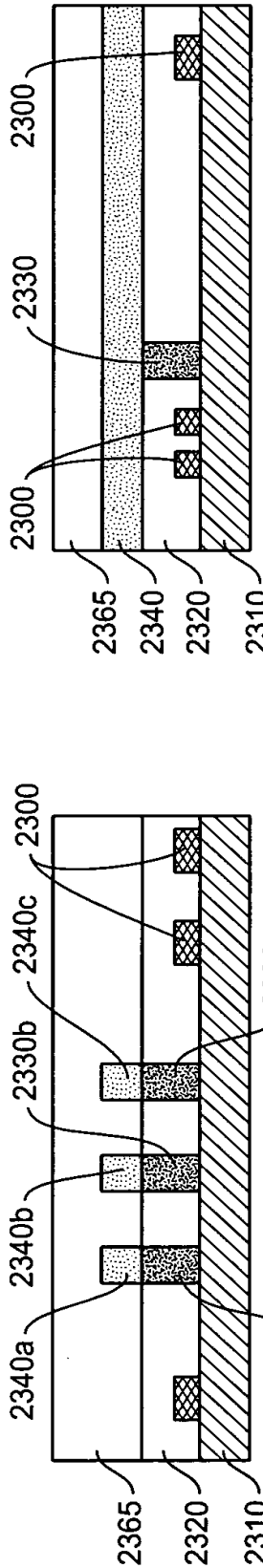
FIG. 403

(a4) Core coat  
(for planarization viscosity adjust if necessary CMP)



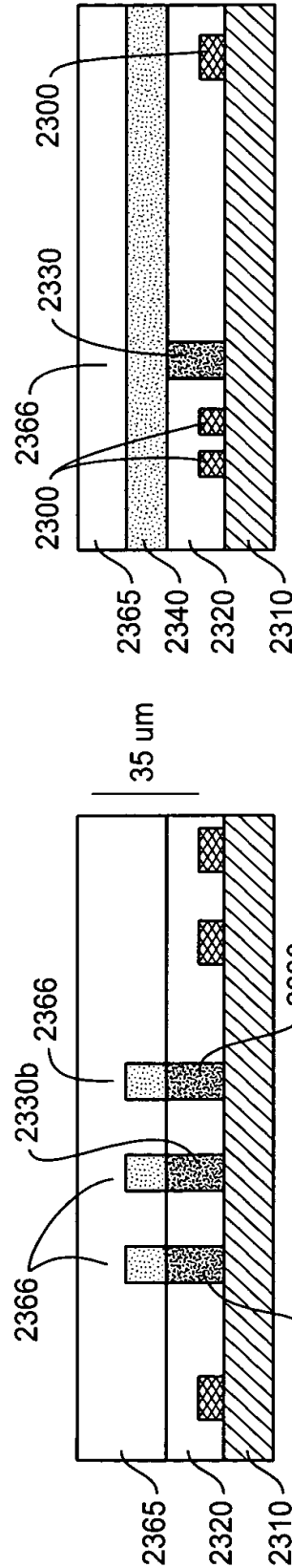
**FIG. 405**

(a5) WG core patterning  
[UV-Exposure, mask-formation+RIE,  
Laser, or Dupont process]  
Development (for Allied Signal, ORMOCERS)



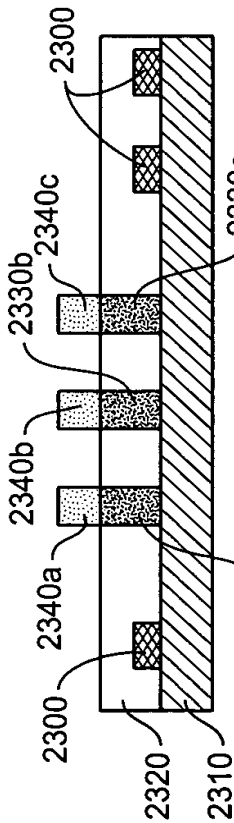
**FIG. 407**

(a6) Over clad coat  
[DuPont, Allied Signal, or F-PI]  
(for planarization viscosity adjust if necessary CMP)

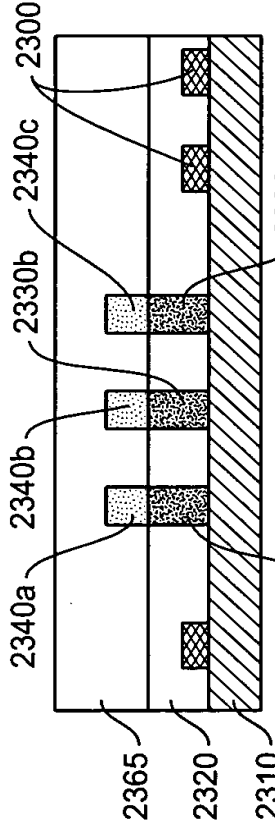


**FIG. 409**

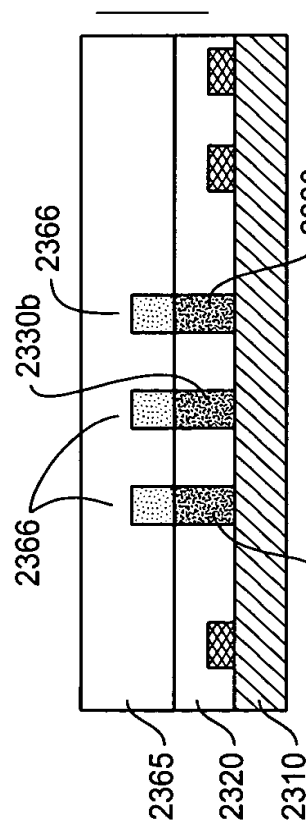
(a7) Clad patterning  
[UV-Exposure, mask-formation+RIE,  
Laser, or Dupont process]  
Development (for Allied Signal, ORMOCERS)



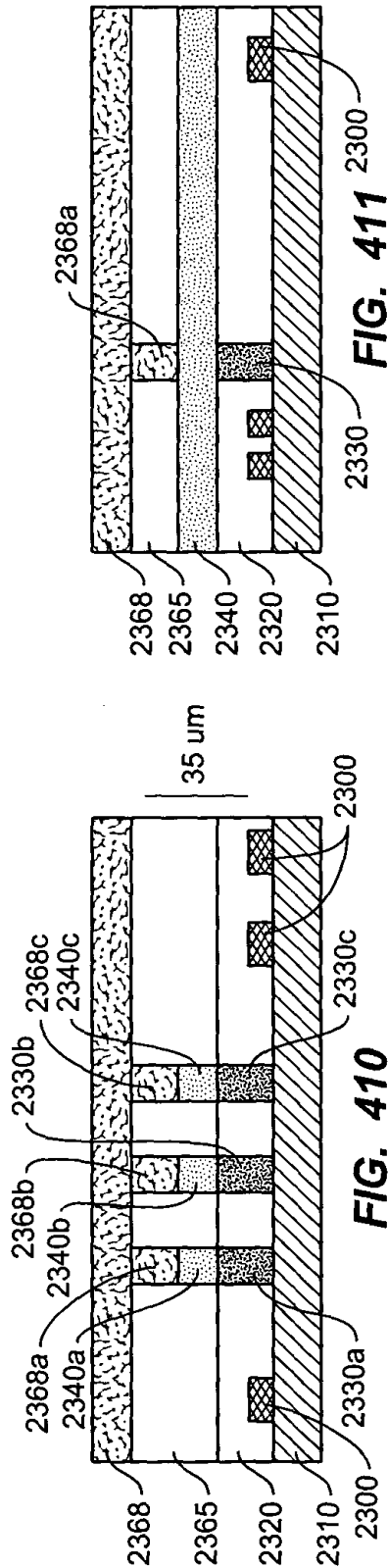
**FIG. 404**



**FIG. 406**

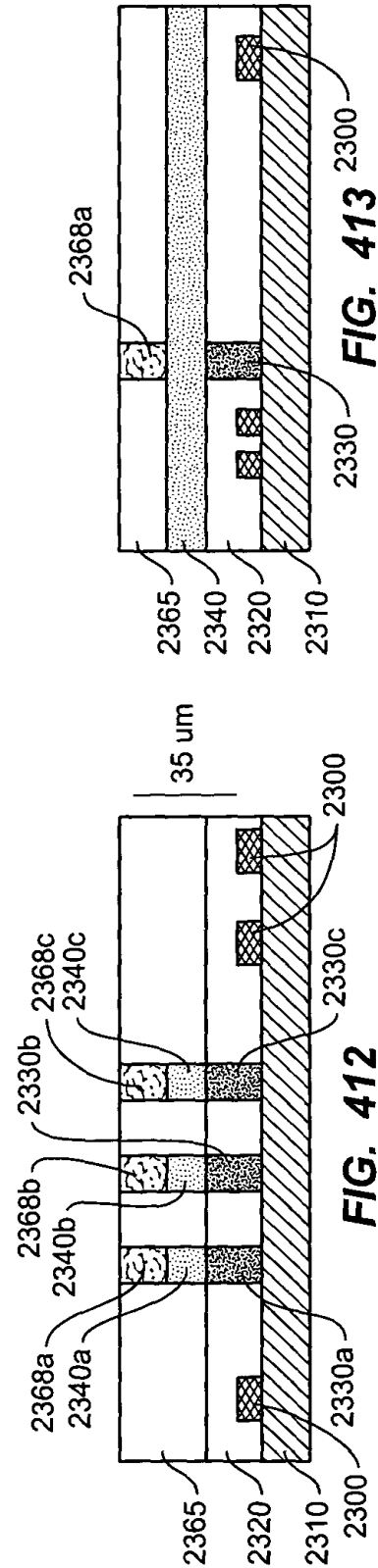


**FIG. 408**



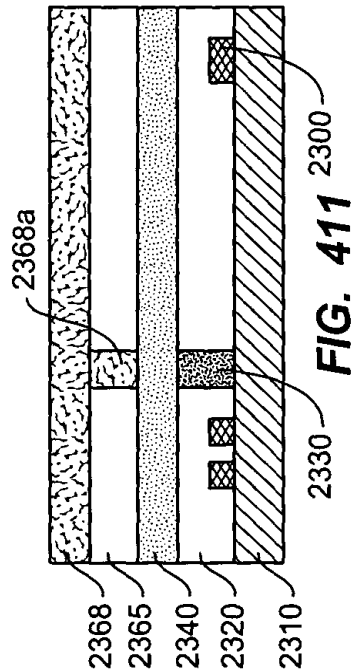
**FIG. 410**

(a8) Core coat  
(for planarization viscosity adjust  
if necessary CMP)

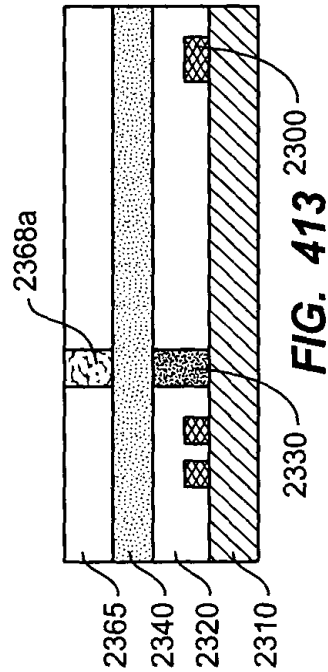


**FIG. 412**

or  
(a8) Core coat and CPM



**FIG. 411**



**FIG. 413**

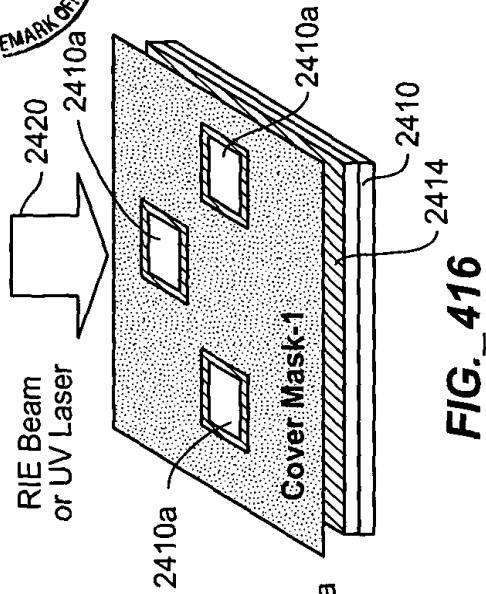


FIG. 414

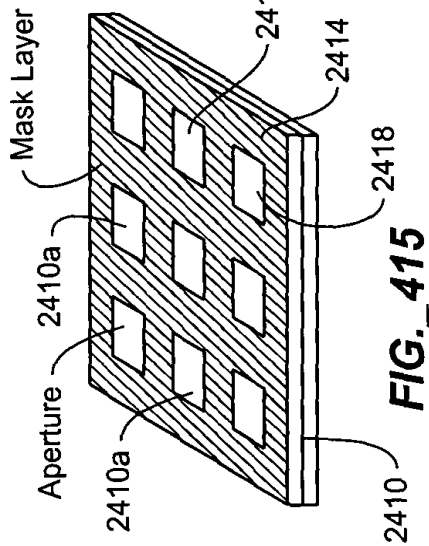


FIG. 415

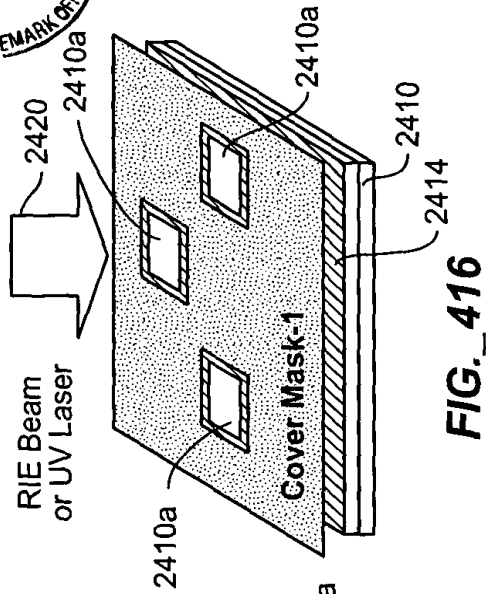


FIG. 416

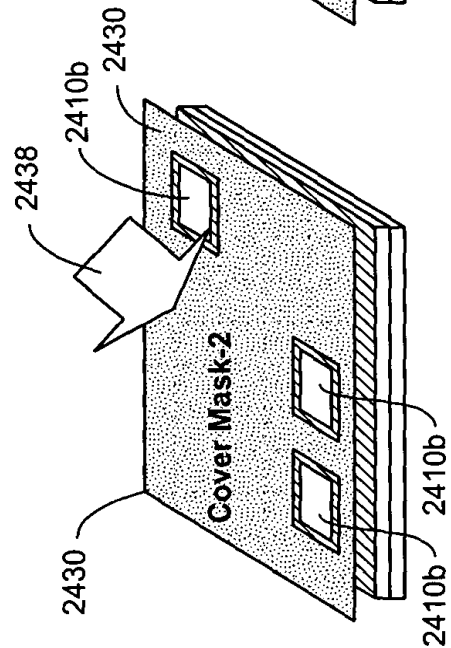


FIG. 417

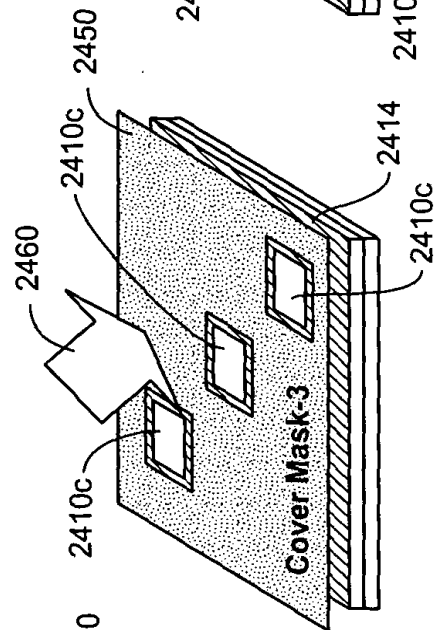


FIG. 418

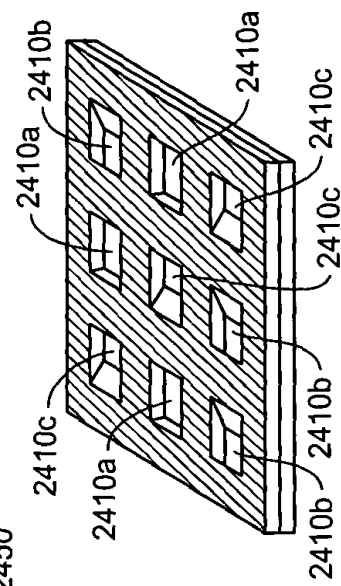
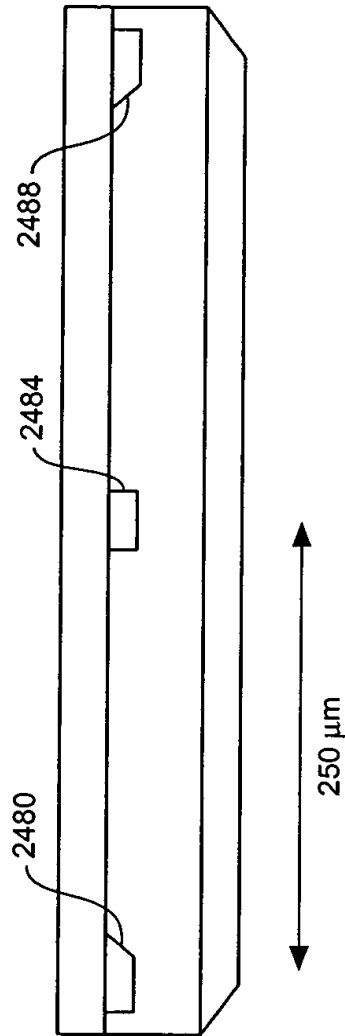


FIG. 419



(b) Trench wall formation of three different angles

**FIG. 420**